EPA-HQ-OAR-2003-0156

Standards Of Performance For New Stationary Sources And Emission Guidelines For Existing Sources Other Solid Waste Incineration (OSWI) Units

Summary of Public Comments and Responses

Contract No. 68-D-01-081
Work Assignment No. 3-04

U.S. Environmental Protection Agency
Office of Air Quality Planning and Standards
Emission Standards Division
Research Triangle Park, North Carolina 27711

November 29, 2005

Disclaimer

This report has been reviewed by the Emission Standards Division of the Office of Air Quality Planning and Standards, and EPA, and approved for publication. Mention of trade names or commercial products is not intended to constitute endorsement or recommendation for use.

TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

LIST OF TABLES

Chapter 1
Summary

On December 9, 2004, the U.S. Environmental Protection Agency (EPA) proposed standards of performance for new stationary sources and emission guidelines for existing sources for other solid waste incineration (OSWI) units (69 FR 71472) under authority of section 129 and section 111 of the Clean Air Act (CAA). Twenty-six public comment letters were received from a wide variety of sources, consisting mainly of government agencies, environmental organizations, incinerator manufacturers, and various incinerator owner/operators.

All of the comments that were submitted and the responses to these comments are summarized in this document. This summary is the basis for the revisions made to the OSWI rules between proposal and promulgation.

1.1 SUMMARY OF CHANGES SINCE PROPOSAL

Several changes have been made since proposal to these rules, including: 1) Changes to the proposed exclusion of rural institutional waste incinerators that will require owners/operators to apply for the exclusion; 2) revisions to the exclusion for temporary-use incinerators used for disaster recovery to prevent potential abuse; 3) addition of provisions regarding national security incinerators; 4) revisions of the CO and HCl emission limits; 5) additional procedures for HCl testing to ensure unbiased measurements. Other changes have been made to clarify portions of the rule that were unclear to the commenters and to address minor typographical errors.

Chapter 2
Summary Of Public Comments

EPA received a total of 26 letters commenting on the proposed standards and emission guidelines and technical memoranda for the proposed standards and guidelines. A list of commenters, their affiliations, and the EPA docket item number assigned to their correspondence is provided in Table 2-1. To achieve an organized presentation, we have grouped the comments under the following topics:

1. Applicability;
2. Definitions;
3. MACT floors, control technology and emission limits;
4. Title V operating permits;
5. Testing and monitoring;
6. Other compliance issues (dates; startup, shutdown, and malfunction; reporting and recordkeeping);
7. Impacts; and
8. Miscellaneous.

The comments, the issues they address, and EPA's responses are discussed in the following chapters of this document.

Table 2-1. List of commenters on the Proposed Standards Of Performance For New Stationary Sources And Emission Guidelines For Existing Sources Other Solid Waste Incineration (OSWI) Units OAR-2003-0156

Docket Item No.	Commenter/Affiliation
OAR-2003-0156-0048	Darling International, Inc.
OAR-2003-0156-0050	R. Fritz, Wisconsin Department of Natural Resources, Madison, WI
OAR-2003-0156-0052	Sandra Ely, State of New Mexico, Sante Fe, NM
OAR-2003-0156-0053	Donald R. Schregardus, U.S. Navy
OAR-2003-0156-0054	Tony Tweedale, Montana-CHEER, (Coalition for Health, Environmental & Economic Rights), Missoula, MT
OAR-2003-0156-0055	Michel R. Benoit, Cement Kiln Recycling Coalition, Washington, DC
OAR-2003-0156-0056	Randy Poteet, Conoco Phillips, Anchorage, AK
OAR-2003-0156-0057	Laurel L. Kroack, Illinois Environmental Protection Agency, Springfield, IL
OAR-2003-0156-0058	John Alan Jones, BWXT Pantex, Amarillo, TX
OAR-2003-0156-0060	Brian O'Connor, Air Burners LLC, Palm City, FL
OAR-2003-0156-0061	Robert R. Scott, New Hampshire Department of Environmental Services, Concord, NH
OAR-2003-0156-0062	Michael L. Foster, Eli Lilly and Company, Indianapolis, IN
OAR-2003-0156-0063	Thomas J. Bourdon, ICE Services, Inc., Prudhoe Bay, AK
OAR-2003-0156-0065	Thomas W. Easterly, Indiana Department of Environmental Management, Indianapolis, IN
OAR-2003-0156-0066	E. Guilford, Private Citizen
OAR-2003-0156-0067	E. Guilford, Private Citizen
OAR-2003-0156-0068	E. Guilford, Private Citizen
OAR-2003-0156-0069	Thomas M. Sullivan, U.S. Small Business Administration's, Office of Advocacy , Washington, DC
OAR-2003-0156-0070	Earthjustice, Washington, DC
OAR-2003-0156-0071	Glenn Shankle, Texas Commission on Environmental Quality, Austin, TX
OAR-2003-0156-0072	Cindy A. Keuler, Alyeska Pipeline Service Company, Ankorage, AK
OAR-2003-0156-0073	Cindy A. Keuler, Alyeska Pipeline Service Company, Ankorage, AK (Attachment to OAR-2003-0156-0072)
OAR-2003-0156-0074	Maurice L. Kelsey, PE, Maurice L. Kelsey & Associates, Inc. Indianapolis, IN (Attachment to OAR-2003-0156-0072)
OAR-2003-0156-0076	Wisconsin Department of Natural Resources, Madison, WI
OAR-2003-0156-0075	Lloyd L. Eagan, STAPPA/ALAPCO, Washington, DC
OAR-2003-0156-0077	Leanne Tippett Mosby, State of Missouri Department of Natural Resources, Jefferson City, MO
OAR-2003-0156-0078	Robbin Mills Ridgway, Ph.D, P.E., Purdue University, West Lafayette, IN

Table 2-1. List of commenters on the Proposed Standards Of Performance For New Stationary Sources And Emission Guidelines For Existing Sources Other Solid Waste Incineration (OSWI) Units OAR-2003-0156

Docket Item No.	Commenter/Affiliation
OAR-2003-0156-0083	G. Vinson Hellwig, State of Michigan Department of Environmental Quality, Lansing, MI

Chapter 3
Applicability

3.1 GENERAL COMMENTS

Comment: Two commenters (OAR-2003-0156-0075, 0070) expressed concern that the applicability of the proposed rules is not broad enough and that too many source categories are excluded or exempt from regulation. Both commenters urged EPA to reconsider these exclusions to make the regulation more comprehensive. One commenter (OAR-2003-0156-0075) also suggested that EPA consider separate regulations that can be tailored more specifically to some of the exempt categories.

One commenter (OAR-2003-0156-0070) contended that EPA's OSWI regulation must include CAA section 129 standards for every category of solid waste incinerator that is not already regulated under CAA section 129. The commenter contended that the proposal contravenes the CAA and violates the agency's obligations under the *Sierra Club* consent decree. The commenter noted that the CAA unambiguously requires EPA to set CAA section 129 standards for any facility that combusts any solid waste, with the exception of the specifically exempted facilities in CAA section 129(g)(1). The commenter also pointed out that in EPA's medical waste incinerator rule, EPA argued that, "Section 129(g)(1) broadly defines solid waste incineration unit as 'a distinct operating unit of any facility which combusts any solid waste material...'" This definition clearly indicates Congress' intent to regulate more than just incinerators because the definition sweeps within its scope any facility that combusts any solid waste.

Response: The CAA is ambiguous regarding what categories of solid waste incineration units must be regulated under section 129(a)(1)(E). After discussing timelines for very specific categories of solid waste incinerators (e.g., large and small municipal waste combustors, commercial and industrial waste incinerators, and hospital and medical waste incinerators), the CAA states only that EPA must publish a schedule for promulgating standards for "other categories of solid waste incineration units." The statute does not unambiguously require, as implied by commenters, that the OSWI standards must apply to every other possible type of incineration unit burning any type of solid waste. If Congress had intended such a clear directive,

it could have instructed EPA to regulate "every" other solid waste incineration unit. Yet Congress did not use such unambiguous language, leaving it to EPA to interpret the CAA in a reasonable manner. Moreover, the position adopted by commenters would lead to absurd results. Under their interpretation, a homeowner burning leaves in a barrel in his or her backyard must be subject to a CAA section 129 rule because the barrel is a unit combusting solid waste material. Congress cannot have intended that EPA regulate such sources under section 129, with all the attendant requirements. The language of section 129 suggests that Congress wanted to focus EPA's attention to specific, larger incineration units (e.g., MWC units and CISWI units). Under this commenter's interpretation of section 129, however, EPA would have to establish MACT floors and emissions standards for dozens of different types of small incineration units with potentially minimal emissions.[1] It takes an enormous effort and use of resources to develop a MACT floor and write a section 129 standard, and Congress cannot have meant that EPA would undertake that substantial effort a multitude of times merely by instructing EPA to address "other" categories of solid waste incineration units (assuming EPA even has the resources to undertake such efforts). Moreover, sources subject to section 129 standards must obtain title V operating permits and undertake extensive testing, monitoring, and recordkeeping even if EPA does not require additional controls under the section 129 standard, and regardless of the level of emissions from the sources. As noted elsewhere, EPA estimates that the costs of these requirements alone can more than quadruple the costs of owning and operating an incinerator. Again, Congress cannot have intended that every "incineration" unit as defined by the commenter, regardless of its size or its impact on public health and the environment, would have to shoulder these burdens merely by referencing an undefined "other" category of incineration units at section 129(a)(1)(E). Thus, the instructions to EPA to promulgate standards for "other categories" of solid waste incinerators inherently include the authority for EPA to reasonably delineate those "other" categories of solid waste incineration units.

The commenter relies on the statutory definition of solid waste incineration unit to argue that any unit combusting any solid waste at any time should be covered under OSWI. However, we do not agree with this broad interpretation of the definition of "solid waste incineration unit" based on the use of the modifier "any." We believe the word "any" should be interpreted within

[1] Total emissions of the regulated air pollutants from all units in the two subcategories regulated

the broader frame of reference of its statutory context, consistent with observations of the Supreme Court in *Nixon v. Missouri Municipal League*, 541 U.S. 125, 124 S.Ct. 1555 (2004). In this recent opinion, the Court observed that Congress's understanding of "any" can differ depending on the statutory setting. 124 S.Ct. at 1561. *Nixon* and a related line of cases support looking for indications in the statute that suggest a more limited meaning of the modified term is possible or intended. See 70 Fed. Reg. 33838, 33842 (June 10, 2005). Indications of a more limited meaning can be found within the definition of solid waste incineration unit in section 129(g)(1) and section 129(h).

Thus, appropriately, the first step in EPA's rulemaking process was determining what universe of sources will be subject to the regulations. The statutory provisions of CAA sections 129(a), (g) and (h) make it clear that EPA must, as a part of the regulatory process, define which combustion units should be subject to regulation under CAA section 129 and hence, to which categories of solid waste combustion units the standards for "other categories of solid waste incineration units" apply. For example, the reference in CAA section 129(g)(1) to a permit issued under section 3005 of the Solid Waste Disposal Act (SWDA), refers to units burning hazardous solid waste. This effectively limits the scope of EPA's authority under CAA section 129 to the regulation of solid waste incineration units that burn nonhazardous solid waste. In determining the scope of OSWI, EPA collected and analyzed data to identify potential OSWI units and determined that the regulations should focus on two categories of waste combustion units that are not regulated elsewhere: institutional waste incineration (IWI) units and very small municipal waste combustion (VSMWC) units. In the proposed rules, we also clarified that certain types of units are not regulated by the OSWI rules. Some of these units are specifically excluded by CAA section 129 (e.g. hazardous waste combustion, small power production facilities, cogeneration facilities burning homogeneous waste). We also clarify that units are not covered under OSWI if they are already regulated under other CAA section 129 or CAA section 112 standards (e.g., small and large municipal waste combustion (MWC) units, hospital/medical/infectious waste incineration (HMIWI) units, commercial/industrial solid waste incineration (CISWI) units, boilers, cement kilns). The language of CAA section 129(h) makes clear the Congressional intent for CAA regulations under section 129 or section 112 to be mutually exclusive. Accordingly, sources

---

by the final OSWI rules are estimated to total only 2,272 tons per year.

subject to CAA section 112 standards are not OSWI units. Absence of regulation under CAA section 112, however, is not determinative of whether a unit is subject to the final OSWI rules.

Moreover, we do not agree that the "small power production facilities" or "qualifying cogeneration facilities" described in CAA section 129(g)(1) are the only types of energy recovery facilities that are properly excluded from the OSWI category. We do not read section 129(g)(1) to establish an exclusive list of excluded sources. (See *National Wildlife Federation v. Gorsuch,* 693 F.2d 156, 172 (D.C.Cir.1982) (use of the term "includes" allows for additional, unstated meanings); *Chemehuevi Indian Tribe v. California St. Bd. of Equalization,* 757 F.2d 1047, 1054 (9th Cir.1985), *rev'd on different grounds,* 106 S.Ct. 289 (1985) ("includes" is a term of enlargement, not of limitation); *United States v. Huber*, 603 F.2d 387, 394 (2d Cir. 1979), *cert. denied*, 100 S.Ct. 1312 (1980) (use of the word "includes," rather than a more restrictive term such as "means," indicates that the list is not exhaustive but merely illustrative).)

As stated earlier, the final OSWI rules regulate IWI and VSMWC units. However, we determined that some subclasses of OSWI units should be handled differently due to unusual circumstances (e.g., unique geographic locations or climatic factors, temporary emergency use) that would prevent owners or operators of these units from having a feasible alternative waste disposal method. The availability of technically and economically feasible waste disposal alternatives is important because, as stated in the preamble to the proposed rules, CAA section 129 rules must contain testing, permitting, monitoring, recordkeeping, and reporting requirements. These requirements alone would easily double or triple the cost of operating a smaller incinerator like those covered by the final OSWI rules. Therefore, we expect CAA section 129 rules (even if they did not require air pollution controls) to force many incinerators to shut down and utilize alternative waste disposal options. However, for unique subclasses of units where alternatives are not available, compliance with a rule would be infeasible yet shutdown of these units also is not an acceptable alternative. We excluded certain such subclasses from the final OSWI rules for the reasons described in the preamble to the proposed rules and responses to comments about specific types of incineration units presented in this document. Of course, EPA and States may still regulate these subclasses under other provisions of the CAA, as necessary. (See CAA section 110(a)(2).)

Comment: One commenter (OAR-2003-0156-0070) contended that EPA has not proposed standards for all solid waste combustion technologies. The commenter listed pyrolysis,

thermal oxidation, catalytic cracking, plasma arcs, catalytic oxidation, flameless thermal oxidizers, and gasification as technologies that have been used to combust solid waste, despite not having the name "incineration." The commenter contended that any units such as those listed or any similar technology engaged in combusting solid waste that is not covered by an existing regulation for MWC, HMIWI or CISWI must have emission standards included in the OSWI regulations. This commenter argued that this is an example of EPA's failure to regulate "all" other solid waste incinerators, and contended that it is EPA's responsibility to ensure that these are regulated as OSWI under CAA section 129.

Response: EPA notes that the commenter did not provide any details regarding these other technologies or the materials that are processed by these technologies. Some of these types of units may well be covered under the CAA section 129 final OSWI rules. For example, pyrolysis/combustion units (two chamber incinerators with a starved air primary chamber followed by an afterburner to complete combustion) within the VSMWC and IWI subcategories are considered OSWI units. In addition, thermal oxidizers, catalytic oxidizers, and flameless thermal oxidizers, if used to combust solid waste, could be subject to the final OSWI rules or other section 129 rules if they meet the appropriate applicability requirements. It is important to note, however, that these types of units often are used to combust uncontained gases (generally from industrial processes) and are not used to dispose of solid waste. Such units would not be subject to the final OSWI rules. The other types of units mentioned by the commenter appear to be either: (1) part of industrial processes (e.g. catalytic cracking) and are regulated under CAA section 112 and other standards for the specific industrial process; (2) noncombustion thermal technologies that operate with an external heat source (e.g. plasma arc); or (3) technologies that are specifically designed to prevent combustion reactions, and, instead are used to produce fuel or chemical feedstocks via controlled chemical reactions (e.g. gasification). Any of these technologies that are used to process hazardous waste are excluded from CAA section 129, and any of these technologies that are regulated as site remediation units under CAA section 112 are also not subject to section 129.

Comment: One commenter (OAR-2003-0156-0053) stated that the rule language was unclear with respect to the incinerators that are discussed as excluded from the OSWI category. The commenter pointed out that while the preamble to the proposed rule clearly states that agricultural waste incinerators, construction and demolition waste incinerators, contaminated soil

treatment facilities, residential incinerators, sewage sludge incinerators, and certain wood waste combustion units are not covered by the rule, the units are not specifically exempted. The commenter suggested that the aforementioned unit types be listed in section *"60.2887 What combustion units are excluded from this subpart?"*

Response: We believe that the rules are sufficiently clear about which combustion units are subject to the final OSWI rules and do not need to specifically exclude in 40 CFR 60.2887 the categories listed by the commenter. As specified in 40 CFR 60.2885(b), to be subject to the final OSWI rules a combustion unit must meet the definition of "OSWI unit" in 40 CFR 60.2977. The definitions in 40 CFR 60.2977 make it clear that "OSWI unit" means either a VSMWC unit or an IWI unit, and there are clear definitions for VSMWC unit, municipal solid waste, IWI unit, and institutional waste.

Agricultural waste incineration units would not be covered by the definition of "OSWI unit" because they are not IWI or VSMWC units. Agricultural waste incinerators are not owned/operated by institutional facilities (they are typically commercial businesses) and the waste they burn does not meet the definition of institutional waste. They also do not meet the definition of VSMWC unit and do not burn municipal solid waste as defined in the OSWI rules. Similarly, construction and demolition waste incinerators generally do not meet the definitions of IWI or VSMWC units and, therefore, would not be covered by the OSWI rules. (If there were an institutional facility operating a construction and demolition waste incinerator that burns only solid waste generated on site at that institutional facility, then in this rare situation, that incinerator might be within the definition of IWI and would be covered by the final OSWI rules.) Similarly, contaminated soil treatment facilities and municipal sewage sludge incinerators do not meet the definitions of IWI or VSMWC unit and are not covered by the final OSWI rules. Residential incinerators are excluded from being VSMWC units by the definition of municipal solid waste. The definitions sections of the final OSWI rules specify: "Municipal solid waste means refuse... *collected from* [emphasis added] the general public and from residential, commercial, institutional, and industrial sources...". Because a residential incinerator does not burn waste collected from multiple sources, it would not be a VSMWC unit and would not be subject to the final OSWI rules. Wood waste combustion units would only be covered if they meet the definitions of IWI or VSMWC units. Most wood waste combustion units would not meet the definition of an IWI unit because they would not be burning wood waste generated on-site at the institutional facility in an

incineration unit without energy recovery or with only waste heat recovery. (An institutional boiler burning some wood materials does not meet the definition of IWI unit, but may be regulated under CAA section 112 boiler standards.)

In conclusion, a careful review of 40 CFR 60.2885 and the definitions of "OSWI unit" and related terms in 40 CFR 60.2977 allows sources to determine which combustion units are IWI or VSMWC units and are therefore subject to the final OSWI rules. The exclusion section is intended to clarify some common questions, maintain consistency with certain exclusions listed in CAA section 129, avoid overlap with other rules, or exclude certain subclasses of units that are not being regulated under OSWI due to unique circumstances such as remote locations or use only during emergencies. It is unnecessary and impractical to specifically list, in 40 CFR 60.2887 of the final OSWI rules, every potential type of combustion unit that does not meet the definition of "OSWI unit."

Comment: Two commenters (OAR-2003-0156-0054, 0070) questioned the rationale of excluding incinerators (one commenter [OAR-2003-0156-0070] specified institutional waste incineration units) with energy recovery from the definition of solid waste incinerators. Both commenters believe that an incinerator burning waste should be regulated as a waste incinerator, no matter how the produced heat is used.

Response: First, we note that the energy recovery comment applies to IWI units, as all VSMWC units, with or without energy recovery, are subject to the final OSWI regulations. Those MWC units that recover energy serve dual purposes: (1) the disposal of municipal solid waste, and (2) energy recovery from the combustion of waste. As a result of these dual purposes, MWC units are often boilers by design. The inclusion of a specific definition of "municipal waste" in CAA section 129 and other indications of Congressional intent support EPA's position that all MWC units should be regulated under section 129 of the CAA regardless of whether the MWC unit serves another purpose. The regulatory boundaries established in the rules for the large and small MWC units are quite clear that MWC units, regardless of their configuration, are regulated under section 129 of the CAA. Our intent is to maintain this interpretation in our regulation of VSMWC units under the final OSWI regulations. In summary, VSMWC units that are incinerators without energy recovery, incinerators with waste heat recovery, and boilers are all regulated under the final OSWI rules. See below for further discussion.

The regulatory boundaries for IWI units, however, are not clearly defined by the CAA. As we have discussed, for the IWI subcategory of OSWI, EPA must define which types of sources should be included in the subcategory. In the process of developing the OSWI rules, developing the boilers NESHAP (promulgated at 69 FR 55218, September 13, 2004), developing rules for area source boilers, promulgating requirements for electric utility steam generating units (70 FR 28606, May 18, 2005), and establishing rules applicable to other combustion sources, EPA must map the regulatory boundaries that identify which units are subject to section 129.

The distinction between IWI units and non-IWI combustion units is not readily apparent. For example, there is general agreement that coal that is combusted in a boiler is not waste, because coal is commonly thought of as a fuel. However, there are many other materials that are burned in institutional boilers for energy recovery. Such materials could include wood, paper, other biomass, plastics, and other items. Combustion of such materials, when burned in a boiler with energy recovery, is addressed under CAA section 112 regulations for boilers. EPA has determined that for purposes of the IWI subcategory of OSWI units, the critical consideration in determining whether the unit is burning institutional waste is the primary function of the combustion unit; and the primary indicator of function is whether or not a unit is designed and operated for energy recovery. On one hand, boiler units are specifically designed to recover the maximum amount of heat from combustion of a material. The boilers NESHAP covers combustion units at institutional facilities that burn solid materials and recover heat in the combustion firebox. Incineration units, on the other hand, are designed to discard materials by burning them at high temperatures and leaving as little residue as possible. Although incineration units do not have heat recovery in the combustion firebox, they may be followed by waste heat recovery units. Combustion units at institutional facilities that burn solid materials and do not recover heat in the combustion firebox, but do recover waste heat from the hot combustion gases following the combustion firebox, would not be covered by the boilers NESHAP. Waste heat recovery units are designed to cool the exhaust gas stream from an incineration unit, and/or recover, indirectly, the useful heat remaining in the exhaust gas. The presence of a waste heat recovery unit on the exhaust gas does not change the fact that the unit combusting the material is primarily an incineration unit burning waste for disposal purposes. EPA does not consider it appropriate to regulate such units as boilers. Therefore, we have determined that IWI units are

those units that combust materials with only waste heat recovery (i.e., heat recovery outside of the combustion firebox) or without energy recovery.

Our focus on the primary function of the unit to identify institutional waste is consistent with the provisions in section 129 of the CAA that apply to MWC units. In section 129, Congress specifically defined municipal waste as "refuse (and refuse-derived fuel) collected from the general public and from residential, commercial, institutional, and industrial sources . . .." (See 42 U.S.C. section 7429(g)(5).) This definition goes on to list specific materials included in municipal waste and exclude incineration units combusting 30 percent or less municipal waste from the MWC standards. This definition of municipal waste provides more specific meaning to the phrase "solid waste . . . from the general public" set forth in section 129(g)(1) of the CAA. Based on the definition of municipal waste in section 129(g)(5), EPA has interpreted section 129 to cover all MWC units, including waste-to-energy facilities that have energy recovery as part of their integral design. When CAA section 129 was developed, EPA had already taken steps to promulgate new source performance standards and emissions guidelines for MWC units under section 111 of the CAA. Thus, by defining "municipal waste" in this manner in section 129(g)(5), Congress determined that MWC units should be regulated as under section 129 even if the MWC unit serves another purpose (e.g., energy recovery). This determination is consistent with our approach in the final OSWI rules because a primary function of a MWC unit is waste disposal.

In contrast, Congress did not define "other solid waste incineration unit" or other types of "waste." Thus, the CAA is ambiguous regarding whether every unit that burns material for energy recovery should be regulated under section 129 of the CAA. We have interpreted the CAA to allow EPA to consider the primary function of the combustion units in making the determination of whether particular units should be subject to CAA section 129. For reasons discussed earlier, this question is harder to answer in the context of institutional facilities where certain combustion units have been historically considered boilers, rather than incinerators, based on the combustion of solid materials commonly regarded as fuels. However, in the case of municipal waste combustors, there has been little or no disagreement among industry, government agencies, and environmental groups on the meaning of MSW and the fact that the section 129 rules cover all MWC units. Thus, we did not have to address this issue at length in the MWC rules. (See 69 FR 7394, n.5.)

Comment: One commenter (OAR-2003-0156-0062) supports the rationale for the proposed OSWI rule, with respect to defining which sources will be regulated as OSWI units. The commenter urged EPA to avoid any significant changes to this stated rationale.

Response: We acknowledge the commenter's support for the applicability provisions of the proposed OSWI rules.

Comment: One commenter (OAR-2003-0156-0070) contended that EPA cannot exempt agricultural waste and wood waste incinerators from OSWI regulations because these units combust solid waste and, therefore, must be regulated under CAA section 129. The commenter noted that CAA section 129(h)(2) prohibits regulation of incineration units under both CAA sections 129 and 112, but that this provision does not excuse EPA from ensuring that any facility combusting any solid waste is subject to a CAA section 129 standard. The commenter argued that EPA must promulgate standards for agricultural waste incineration units and wood waste incinerators regardless of whether they are subject to a CAA section 112 regulation. For CAA section 129(h)(2) compliance, EPA then must exempt these units from the CAA section 112 regulations once the CAA section 129 regulations for such units are in effect.

Response: As discussed in the proposed rule preamble, the evidence that EPA has supports its belief that agricultural residue waste combustion units generally burn the agricultural waste as fuel, and thus these units would be covered by the boilers NESHAP. The data we have also leads to the conclusion that wood residue combustion units will be covered by the boiler NESHAP or CISWI. (See *Commercial and Industrial Solid Waste Incineration Unit New Source Performance Standards and Emission Guidelines: Definitions – Summary of Public Comments and Responses* (EPA-HQ-OAR-2003-0119-0038). September 14, 2005.) Section 129(h)(2) clearly states that any unit subject to a section 129 standard cannot also be subject to a 112(d) standard. The rules of logic support the position that the contrapositive of that statement is equally true – any unit subject to a 112(d) standard cannot also be subject to a 129 standard. Thus, the Act is clear that regulation under sections 129 and 112 are mutually exclusive. EPA is not obligated, as commenters argue, to promulgate a section 129 standard for units subject to a 112(d) standard, and then exempt those units from the 112(d) standard.

Comment: One commenter (OAR-2003-0156-0070) contended that EPA's failure to identify any units burning manure or livestock bedding, wood waste, or construction and demolition waste does not excuse EPA from setting emission standards for such units. Citing

EPA correspondence with the Small Business Administration, the commenter observed that EPA never attempted to contact OSWI operators. Therefore, it is not surprising that EPA failed to identify any such units. Furthermore, the commenter argued, if this rationale held true, then EPA could "avoid statutory obligations to set emission standards just by refusing to gather information about the sources to be regulated." To remedy this situation, the commenter insisted that EPA must gather information to determine if agricultural incineration units burning manure or livestock bedding, wood waste incinerators, and construction and demolition waste incinerators exist. If EPA identifies such units, then it must establish emission standards for these sources.

Response: EPA made significant attempts to identify incinerators in determining which types of sources to regulate under the final OSWI rules. As part of the industrial combustion coordinated rulemaking (ICCR), we sent a questionnaire to nearly 12,000 facilities identified as having a combustion unit (including boilers, heaters, and incinerators) burning non-fossil materials. This included every facility we could identify from Federal and State databases and stakeholder input. We received responses from the vast majority of these facilities, although many were no longer operating their incinerators. These responses provided design and operating information on over 1,100 combustion units burning wood. However, all of these sources were either boilers or process heaters with integral energy recovery that are being addressed under CAA section 112, or commercial or industrial incineration units that are appropriately regulated under CISWI. We are not aware of, nor has the commenter provided any information on, any other wood-fired units remaining for consideration as potential OSWI units.

Similarly, a few units were identified that combust agricultural residues such as bagasse, rice hulls, etc. for the purpose of energy recovery, and, thus, are all boilers and are being addressed under CAA section 112. Prior to proposal of the OSWI rules, we updated the ICCR list of potential OSWI units by searching the latest version of the national emissions inventory (NEI), which contains the latest data from State databases and various Federal programs, for incineration units burning non-fossil materials. We also contacted State agriculture departments to request information on agricultural incineration; contacted trade associations; contacted incinerator vendors to determine what types of incinerators they have been selling and to what markets; and performed Web searches. After these extensive efforts, we were not able to locate any incineration units in several potential subclasses described in the preamble to the proposed rules. This result is not surprising because vendor contacts and feedback from facilities that used

to operate OSWI units have shown us that the use of incineration for waste disposal is declining, especially where the units do not recover energy. Given our prior efforts to identify these types of units and the trends in incineration, we do not believe that these types of units currently operate. Furthermore, public commenters on the proposed rules have not provided specific information on any such sources. Because we are unable to locate such units and have no data on them, we are not, and indeed cannot regulate them at this time.

Public commenters on the proposed rules have not provided any information demonstrating that there are agricultural waste incinerators, construction or demolition incinerators, or wood waste incinerators that are not boilers. EPA cannot set a standard under CAA section 129 without adequate operating, emissions, and control technology information for sources within the category. Thus, contrary to the commenter's suggestion, EPA could not speculate or estimate and set a CAA section 129 standard "just in case." Therefore, because we are unable to locate any such units and have no data on how such hypothetical units, if used in the future, may operate, we are not including agricultural waste, construction or demolition, or wood waste incinerators as subcategories of OSWI.

3.2 CEMENT KILNS

Comment: One commenter (OAR-2003-0156-0070) contended that cement kilns that burn any non-hazardous waste are "solid waste incineration unit(s)" and, as such, must be regulated under CAA section 129. The commenter noted that previous CAA section 129 rules for MWC, HMIWI, and CISWI exempt cement kilns but EPA acknowledged in the preamble to the final portland cement manufacturing industry NESHAP that there are some cement kilns burning non-hazardous waste and that it has the authority to regulate them under section 129 (64 FR 31898, 31910; June 14, 1999). The commenter concluded that the exclusion of cement kilns is unlawful and is a violation of the *Sierra Club* consent decree. The commenter urged EPA to immediately propose section 129 standards for cement kilns so that it may promulgate final regulations for waste-burning cement kilns by the November 30, 2005 deadline for final OSWI standards.

Response: Cement kilns, including those burning nonhazardous solid waste, have been regulated since 1999 under the portland cement manufacturing industry NESHAP, which is based on MACT. The rule regulates both major and area sources, and its requirements reduce emissions

of PM, multiple metals, dioxins/furans, and total hydrocarbons (which are a surrogate for other organic hazardous air pollutants (HAP) including POM, benzene, toluene, and formaldehyde). The rule has already been implemented and sources are complying with it. Therefore, cement kiln emissions have already been addressed. The language of section 129(h) makes clear the Congressional intent for CAA regulations under section 129 or section 112 to be mutually exclusive. Accordingly, sources such as cement kilns that are subject to section 112 standards are not OSWI units.

Comment: One commenter (OAR-2003-0156-0055) offered support for EPA's proposed decision to exclude cement kilns that burn solid waste from the scope of the proposed OSWI rules. The commenter believes that EPA lacks authority to regulate cement kilns under CAA section 129 because Congress did not intend to regulate cement kilns under this provision. The commenter pointed out that Congress clearly focused on incinerators when writing CAA section 129, which vary considerably from kilns in design and function. The commenter cited language from 40 CFR 260.10 (Hazardous Waste Management System: General – definitions), which gives the basic definition of "industrial furnace" such as a cement kiln as being an "integral component of a manufacturing process." While an "incinerator" is by definition one of a number of devices that is not an industrial furnace. Thus, the commenter believes that the terms "incinerator" and "industrial furnace" have been considered to be mutually exclusive. The commenter explained that Congress recognized the distinction between kilns and incinerators in legislation such as RCRA section 3005(c)(2)(A)(ii) and section 3004(q)(2)(C), which refer to cement kilns as separate from incinerators. The commenter also referred to the HMIWI final rule preamble, which states that EPA recognizes that cement kilns are different from HMIWI in size, design, and operation Furthermore, the commenter believes that because EPA has regulated cement kilns under its section 112(d) authority, it cannot also regulate them under CAA section 129.

Response: We acknowledge the commenter's support for the decision not to regulate cement kilns under the OSWI rules. However, we maintain that EPA has the authority to regulate cement kilns under either CAA section 112 or 129. As pointed out by the commenter, we have already regulated cement kilns under the section 112 portland cement manufacturing industry NESHAP (40 CFR 63 subpart LLL), and the wording of CAA section 129 makes it clear that the same source cannot be regulated under both CAA sections 112 and 129. We also agree that cement kilns that burn some nonhazardous solid waste are the same as the other cement kilns

regulated by the portland cement manufacturing NESHAP in terms of combustion technology and are best regulated under that NESHAP rather than under the OSWI rules. We have not changed our approach since proposal, and the final OSWI rules will not regulate cement kilns that are subject to 40 CFR part 63 subpart LLL.

Comment: One commenter (OAR-2003-0156-0055) reported that cement kilns provide safe and effective treatment technology for many types of wastes while simultaneously conserving non-renewable fossil fuels and producing an important product. The commenter further stated that, were EPA to regulate cement kilns under CAA section 129, energy conservation and related environmental benefits would have to be considered in developing the standards.

Response: We acknowledge the commenter's support for EPA's decision not to regulate cement kilns under the final OSWI rules. We have not changed the proposed rules in this regard.

3.3 RESIDENTIAL WASTE INCINERATION, BURN BARRELS AND OPEN BURNING

Comment: One commenter (OAR-2003-0156-0052) stated that unenclosed burn barrels should not be considered as a type of incinerator, but as a form of open burning. The commenter noted that the preamble discussion (69 FR 71478) makes a distinction between burn barrels and open burning. The commenter disagreed with this distinction based on the grounds that, since burn barrels have no provisions for regulating air supply to the waste being burned and have no pollution control devices, they fit the regulatory definition of open burning used by most States. The commenter stated that EPA, by considering burn barrels to be a type of incinerator, undermines, or at least creates uncertainty regarding, numerous State and local regulations that treat burn barrels as a subcategory of open burning. The commenter suggested that EPA revise the discussion of burn barrels to say that the reason they are not regulated as a subcategory of OSWI is because they are a type of open burning, which is beyond the scope of CAA section 129 regulation.

Response: It was not EPA's intent to undermine any State or local requirements regarding this type of burning. State and local agencies are free to regulate or otherwise address burn barrels and open burning using whatever definitions and requirements they see fit. As stated in the preamble to the proposed rules, we are not regulating residential burn barrels as a subcategory

of OSWI. Because uncontrolled burning of household waste occurs in millions of households across rural America, programs to reduce or eliminate this practice can only be effectively managed at a local level through development of locally based solutions that combine public education with the development of local infrastructure for waste disposal. In many areas it will also require establishing additional State and local ordinances and locally managed compliance programs. As explained in the preamble to the proposed rules (69 FR 71479) EPA has concluded that adoption of Federal regulations that would mandate use of a uniform set of waste management practices does not appear to be practical. We have chosen, instead, to develop technical assistance to help States and localities design and develop programs tailored to the unique needs and constraints individual communities face. We support State and local efforts to reduce residential burning of household waste, whether the waste is contained in burn barrels or not.

Comment: One commenter (OAR-2003-0156-0052) asked if cyclonic burn barrels are subject to the OSWI regulations. These devices consist of a 55-gallon drum fitted with a lid that has an inlet for high-velocity air flow driven by a fan, and an exhaust outlet. The commenter noted that this question was raised in comments on the CISWI rulemaking, and that EPA responded to the comment by stating that it would gather more information on these units and would evaluate them separately from the CISWI category at a future date. The commenter considers these devices to be a type of incinerator and to be subject to the proposed subparts EEEE and FFFF if they burn municipal or institutional waste. The commenter recommended that EPA explicitly include these devices as regulated entities subject to all the requirements of the final OSWI regulations.

Response: It was our intent to regulate cyclonic burn barrels that meet the definition of an IWI unit or VSMWC unit under the final OSWI rules. An IWI unit is a combustion unit, regardless of size, located at an institutional facility (i.e., land-based facility owned and/or operated by an organization having a governmental, educational, civic, or religious purpose) that burns solid waste generated at that institutional facility. A VSMWC unit is a combustion unit that has the capacity to burn less than 35 tons per day of municipal solid waste collected from residential, commercial, institutional, and industrial sources. We agree that cyclonic burn barrels are a type of incinerator because they provide an enclosure (barrel) in which the waste is burned and include a fan to provide high-velocity air flow and an exhaust outlet, and we did not exclude

them in the proposal. To clarify our intent to regulate this type of OSWI unit, we are including "cyclonic burn barrel" as another example of an incinerator design in the final rules' definitions of IWI unit and MWC unit. We would like to note that the final OSWI rules regulate only IWI and VSMWC units. For example, if a cyclonic burn barrel is used at a commercial or industrial facility to burn commercial or industrial solid waste, then it would not be subject to the final OSWI rules.

Comment: One commenter (OAR-2003-0156-0066) suggested that EPA include criteria for exempting burn barrels in the rule. The commenter disagreed with EPA's explanation that residential burn barrels tend to be used in rural areas. In the commenter's experience, burn barrels are also used in urban or semi-urban areas. For that reason, the commenter recommended that EPA exempt only burn barrels in rural locations, and define rural using criteria such as city size and the proximity to a landfill.

Response: We maintain that the best means of dealing with residential burn barrels is through development of State and local programs. As previously stated in the preamble to the proposed rules (69 FR 71478), due to the highly varied nature of local governments, large differences in existing waste management infrastructure and resources, differences in population density and regional differences in waste disposal practices and attitudes, EPA has concluded that adoption of Federal regulations for these units does not appear practical. We have chosen instead to develop technical assistance to help States and localities design and develop waste management programs tailored to the unique needs and constraints individual communities face. To provide additional information about EPA's back yard burning activities, a back yard burning Web site, (http://www.epa.gov/msw/backyard), which includes background information, access to available publications, and links to related Web sites, was developed.

Comment: One commenter (OAR-2003-0156-0070) stated that EPA's policy arguments for declining to establish CAA section 129 standards for residential waste incineration units are irrelevant. The commenter noted that EPA assumes that if these units are subject to regulation, people would cease to use them and would resort to littering or open burning instead. The commenter disagrees with this assumption, stating that EPA has not provided a reason to believe that State and local governments would allow littering and open burning.

Response: Burning waste is often seen as more convenient than taking it to a landfill or contracting with a waste management service (if one is available) to collect it. As explained in the

preamble to the proposed OSWI rules, if EPA were to regulate residential burn barrels, the costs to comply would effectively rule out the use of burn barrels. Due to the lack of convenient waste disposal alternatives, it is reasonable to assume that some households would turn to disposing of trash along roadsides or in fields or woodlands, or would resort to open burning. In fact, such methods of trash disposal are evident in many rural areas and, contrary to the commenter's opinion, open burning is legal in many States and localities.

As further explained in the preamble to the proposed rules, EPA believes our overriding responsibility must be to promote the use of environmentally sound integrated waste management practices. Effective management of the burning of household waste in rural areas will require the development of suitable waste disposal alternatives as well as the development of a public education effort to inform people of the environmental impacts associated with barrel burning and open burning. It should be noted that regulating open burning is beyond the scope of CAA section 129, since open burning is not done in an incinerator. Most importantly, because uncontrolled burning of household waste occurs in millions of households across rural America, programs to reduce or eliminate this practice can only be effectively managed at the local level through the development of locally based solutions that combine public education with the development of local infrastructure for waste disposal. In many areas, it will also require establishing additional State and local ordinances, and locally managed compliance programs. Many of these concerns are well beyond the scope of the CAA.

Given the highly varied nature of local government, large differences in existing waste management infrastructure and economic resources, differences in population density, and regional differences in practices and attitudes towards waste management, EPA has concluded that adoption of Federal regulations that would mandate use of a uniform set of waste management practices related to household waste burning does not appear to be practical. EPA has chosen, instead, to develop technical assistance to help States and localities design and develop waste management programs tailored to the unique needs and constraints individual communities face. As a result, EPA has decided not to include residential incinerators (i.e., burn barrels) as a subcategory of OSWI for regulations. To provide additional information about backyard burning and available resources to the public and to State and local agencies, EPA has developed a Web site (http://www.epa.gov/msw/backyard).

Comment: Two commenters (OAR-2003-0156-0054, 0083) contended that EPA did not appear to consider multi-family residential incinerators when discussing the rationale for excluding residential incineration units. One commenter (OAR-2003-0156-0083) noted that EPA's rationale for excluding residential incinerators only discusses single-family residential incinerators, while earlier Federal Register notices describe the category as including multi-family residences, hotels, motels, and apartment complexes. The commenter questioned why EPA has decided to exclude these units, and notes that these sources are not necessarily located in rural areas that lack sufficient disposal alternatives. Another commenter (OAR-2003-0156-0054) observed that multi-family residential incinerators can demonstrate very poor combustion conditions and few emission control devices. One commenter (OAR-2003-0156-0083) recommended that the multi-family, hotel, motel and apartment residential incinerators be subject to the same standards to which institutional waste incinerators are being held.

Response: The vast majority of multi-family residences, hotels, motels, and apartment buildings are owned and operated by commercial entities. Incineration units at such multi-family residences would not qualify as IWI units because they are not owned/operated by institutional facilities nor VSMWC units because they are not collecting waste from multiple sites, and they are therefore not regulated as OSWI units. However, if an institutional facility, such as a university or a military base, uses an incineration unit (without energy recovery or with only waste heat recovery) to dispose of residential waste generated on-site in dormitories or barracks, then that incineration unit would meet the definition of an IWI unit and would be subject to the final OSWI rules. To the extent that multi-family residential waste incinerators are commercially owned/operated and it is determined they warrant regulation, they would be most appropriately regulated under CISWI and would be addressed under future revisions to the CISWI rules.

Comment: One commenter (OAR-2003-0156-0063) pointed out that cyclonic barrel burners are a mainstay of waste disposal in Alaska and are regulated under the proposed rule. The commenter believes that given the option of complying with the proposed rule, which would cost several hundred thousand dollars per year, people would choose to openly burn the material. The commenter requested that cyclonic barrel burners be exempted.

Response: Cyclonic barrel burners are a type of incinerator because they provide an enclosure (barrel) in which the waste is burned and include a fan to provide high-velocity air flow and an exhaust outlet. If cyclonic barrel burners meet the definition of an IWI unit or a VSMWC

unit, then they are regulated by the final OSWI rules. As explained in an earlier response in this section of this document, an IWI unit is a combustion unit, regardless of size, located at an institutional facility (i.e., organizations having a governmental, educational, civic, or religious purpose) that burns solid waste generated at that institutional facility. A VSMWC unit is a combustion unit that has the capacity to burn less than 35 tons per day of municipal solid waste collected from residential, commercial, institutional, and industrial sources. However, there are exclusions for incinerators in remote areas of Alaska, as described in section 3.11 of this document.

3.4 AGRICULTURAL WASTE INCINERATORS

Comment: One commenter (OAR-2003-0156-0070) contended that the fact that some incinerators might qualify for an exemption under CAA section 129(g)(1) does not excuse EPA from establishing emission standards for an entire source category. EPA's speculation that agricultural waste incinerators "would likely be 'qualifying small power producing facilities,'" has no basis in the record. The commenter noted that an incinerator has to meet two statutory requirements to qualify for the exemption in CAA section 129(g)(1). The first requirement is that the facility must be a small power production facility, which must meet several operational requirements and be owned by a person not primarily engaged in the generation or sale of electric power (other than electric power solely from cogeneration or small power production facilities). The second requirement is that the facility must burn only "homogenous waste." Since EPA has no information on these units, the commenter argued, then it cannot be certain that these facilities will burn only manure or only livestock bedding, and not a combination of both (i.e., non-homogenous waste). Therefore, the commenter noted that EPA can only speculate that some units may qualify for the exemption, and therefore is still required to set standards for the source category.

Response: As described in section 3.1 of this document, EPA made extensive efforts to gather information on agricultural and other potential types of waste incinerators that might be considered OSWI units. The only agricultural waste incinerators we identified were boilers, and boilers are addressed under CAA section 112. Major source boilers, including those burning agricultural wastes, are covered by the industrial/commercial/institutional boilers NESHAP for major sources (40 CFR part 63 subpart DDDDD). Area source boilers are being considered for

regulation under the area source boilers NESHAP currently under development. The language of section 129(h)of the CAA makes clear the Congressional intent for CAA regulations under section 129 or section 112 to be mutually exclusive. Accordingly, sources such as boilers that are being addressed under CAA section 112 standards are not OSWI. Furthermore, to the extent agricultural waste incinerators meet the CAA section 129 criteria for "qualifying small power producing facilities" they must be excluded from the section 129 OSWI rules. Public commenters on the proposed rules have not provided any information demonstrating that there are agricultural waste incinerators that are not boilers. EPA cannot set a standard under CAA section 129 without adequate operating, emissions, and control technology information for sources within the category. Thus, contrary to the commenter's suggestion, EPA could not speculate or estimate and set a CAA section 129 standard "just in case." Therefore, because we are unable to locate any such units and have no data on how such hypothetical units, if used in the future, may operate, we are not including agricultural waste incinerators as a subcategory of OSWI. We would like to point out that if an institutional facility is using an incinerator to burn agricultural waste materials generated on-site at the institutional facility, then it would meet the definition of an IWI unit in the final OSWI rules and is covered by the final OSWI rules. However, we are not aware of any such units. If unregulated agricultural waste incinerators are identified in the future, and EPA determines that the units warrant regulation, they can be addressed under various Federal or State authorities at that time.

3.5 CONSTRUCTION AND DEMOLITION WASTE INCINERATION UNITS

Comment: One commenter (OAR-2003-0156) argued that EPA should not omit the combustion of construction and demolition debris from the OSWI regulations. The commenter noted that recent activity in the State of New Hampshire indicates an increased interest in burning construction and demolition debris. The commenter stated that the State is currently processing an application for a 220 million Btu per hour (MMBtu/hr) boiler fueled by wood materials derived from construction and demolition debris, including painted and treated wood, and have heard inquiries from two other potential applicants of similar type units. The commenter also noted that construction and demolition debris are exempt from the definition of municipal solid waste, so

none of the municipal waste combustor regulations apply to these units. Furthermore, the NESHAP for Industrial, Commercial, and Institutional Boilers and Process Heaters (40 CFR part 63, subpart DDDDD) addresses only devices located at major sources of HAP. The current application being reviewed by the commenter is not located at a major source of HAP, and the commenter does not anticipate future like sources to be located at major sources. Therefore, these new sources will not be subject to 40 CFR part 63, subpart DDDDD. In summary, the commenter does not know of any current or proposed Federal regulations that address emissions from the combustion of construction or demolition debris, and believes that EPA's reasoning behind exempting these types of units from the OSWI regulations may not be valid based on the commenter's recent experience.

Response: We thank the commenter for bringing these units to our attention. As the commenter states, if boilers burning construction and demolition materials are major sources they are regulated under the industrial/commercial/institutional boilers NESHAP (40 CFR part 63 subpart DDDDD). EPA is currently developing a NESHAP for area source boilers, and plans to address area source boilers burning construction and demolition materials under that NESHAP. If a boiler burning construction and demolition materials is located at a major or area source, or is a major or area source itself, it would be covered by one of these CAA section 112 standards. If such materials are burned in electric utility steam generating units, they would be regulated under another CAA standard.

3.6 HUMAN CREMATORIES

Comment: Two commenters (OAR-2003-0156-0070, 0054) objected to the exemption of human crematories from the proposed rules. Both commenters argued that the incineration of human bodies emits significant quantities of mercury and other hazardous air pollutants and one commenter (OAR-2003-0156-0054) provided a summary of mercury emissions from crematoria with a reference list. One commenter (OAR-2003-0156-0070) objected to EPA's conclusion that human bodies are not solid waste within the legal meaning of the CAA. The commenter noted that EPA defines solid waste under the SWDA as any "discarded material" and that the definition also clarifies that a material is "discarded" if it is "burned or incinerated." The commenter stated that this reluctance to legally classify human bodies as solid waste should not be influenced by spiritual or religious beliefs regarding human bodies. The commenter concluded that controlling

the emissions from crematories will protect communities and people from significant amounts of highly toxic emissions.

Response: Clean Air Act section 129 regulations deal solely with solid waste combustion units. As noted in the preamble to the proposed rules, in considering the nature of human crematories, EPA has determined that the human body should not be labeled or considered "solid waste." Therefore, human crematories are not solid waste combustion units, and are not a subcategory of OSWI for regulation.

We disagree with the commenter's assertions that human bodies are discarded and that CAA section 129 rules must consider a material to be "discarded" if it is "burned or incinerated." The definition of "discarded" referred to by the commenter is found in 40 CFR part 261, which defines "hazardous waste" for the purpose of implementing the hazardous waste program authorized by the SWDA. In defining "hazardous waste," 40 CFR part 261 also defines "solid waste" and elaborates on the meaning of "discarded," which is a term used in the definition of solid waste. However, in doing so, 40 CFR part 261 states explicitly in 40 CFR 261.1(b)(1) that this definition of solid waste is only for the purpose of materials that are hazardous wastes. Much of the complexity and specificity of the 40 CFR part 261 definitions is needed to assure that hazardous waste is properly identified, tracked, transported, and disposed of, and is not inappropriately discarded or abandoned. The 40 CFR part 261 details on the meaning of solid waste and discarded are not found in solid waste definitions within the Resource Conservation and Recovery Act (RCRA) rules pertaining to nonhazardous wastes (e.g., 40 CFR part 240 through 40 CFR part 259). The regulatory definitions of "solid waste" and "discarded" found in 40 CFR part 261, therefore, do not apply to nonhazardous solid wastes. Section 129 of the CAA regulates only nonhazardous solid wastes. As described in previous *Federal Register* notices pertaining to the proposed and final CISWI rules (64 FR 67104, November 30, 1999 and 65 FR 75342, December 1, 2000) EPA has adopted, under the joint authority of the CAA and RCRA, a definition of solid waste that is used solely to identify nonhazardous solid waste for the regulatory programs authorized by CAA section 129, such as the final CISWI and OSWI rules. The definition of discarded cited by the commenter is not applicable to CAA section 129 rules.

Furthermore, as described in section 3.1 of this document, inherent in EPA's implementation of CAA section 129 is the discretion to reasonably define what constitutes the statutorily undefined other categories of solid waste incineration units. We have determined that

human bodies are not solid waste for purposes of CAA section 129 rules, and we are not regulating them under the final OSWI rules. However, as stated in the preamble to the proposed OSWI rules, if EPA or States determine in the future that human crematories should be considered for regulation, they would be addressed under other authorities.

3.7 ANIMAL CREMATORIES

Comment: One commenter (OAR-2003-0156-0078) expressed support for the proposed decision to exclude animal crematories as a regulated subcategory of the proposed OSWI rule and supports the proposed exclusion of pathological waste incineration units. The commenter operates a pathological waste incinerator/animal crematory and believes incineration is the best alternative for carcass disposal. The commenter pointed out that the other alternatives to incineration, such as rendering, burial, composting or feeding of the carcass to exotic animals does not address the need for disposal of animal carcasses with an infectious disease. The commenter also stated that alkaline digestion is the only viable alternative that inactivates pathogenic organisms. However, alkaline digestion does not reduce the volume of waste handled, as incineration does. The commenter mentioned that open-air incinerators and air curtain incinerators have raised questions about air pollution and the efficacy of the methods in neutralizing pathogens, and are therefore not viable alternatives.

Response: EPA acknowledges the commenter's support, and we have not changed our decision to exclude animal crematories and pathological waste incineration units.

Comment: One commenter (OAR-2003-0156-0048) asked if EPA had considered in the proposed rules the incineration of animal byproducts from the food processing industry. The commenter called out deer and elk specifically, and said the incinerated items could range from whole animal to products produced from the rendering industry. The commenter noted that this comment is directed at the new source performance standards (NSPS) currently under development.

Response: We find this comment unclear, but it seems to concern incinerators operated by commercial or industrial entities, such as the food processing industry. If the incinerators in question are commercially owned/operated then they are not regulated under the final OSWI rules which cover only IWI units and VSMWC units.

Comment: One commenter (OAR-2003-0156-0070) contended that animal carcasses are solid waste and, as such, animal crematories are solid waste incineration units that must be regulated under CAA section 129. The commenter argued that the policy arguments that EPA puts forth are irrelevant and that, since animal crematories are not subject to any other CAA section 129 standards, they must be subject to the OSWI regulations.

Response: For reasons fully discussed in section 3.1 of this document, EPA disagrees with the commenter's conclusion that section 129 requires regulation under OSWI of every possible solid waste combustion unit that is not already regulated under CAA section 129 rules. Inherent in EPA's implementation of CAA section 129 is the discretion to reasonably define what constitutes the statutorily undefined other categories of solid waste incineration units and to determine which of these other units warrant regulation under CAA section 129. We have determined that animal crematories do not warrant regulation based on our analysis of their emissions and the adverse impacts that would occur if these units were regulated under the final OSWI rules.

Animal crematories are those used to dispose of animal carcasses at places like veterinary clinics, animal control facilities, universities and research institutions, pet cremation services, and livestock farms such as poultry and swine farms. From the information EPA has gathered, the emissions from these units are very low when compared to other solid waste combustion units. The emissions levels from uncontrolled animal crematory units are, in fact, less than emissions after controls from other types of incinerators that are regulated, such as MWC units and HMIWI units. This is because operation of these units involves incineration of animal or pathological tissue, which consists primarily of water, with negligible or no other materials, such as plastic, wood, metals, etc. Furthermore, the units are typically very small and operated only a few hours a week.

In addition to the low emissions from these units, EPA is also concerned about biosecurity within the agricultural sector. Incineration of diseased animals is often necessary to prevent the spread of infectious diseases. Research within the agricultural community has shown that vehicles traveling among farms to collect dead animals for off-site disposal are significant disease transmission vectors. Thus, on-site incineration is often a preferred method of animal carcass disposal, since it carries no risk of disease transmission between farms. If EPA were to impose regulations that discouraged incineration relative to rendering (which, for economic reasons,

requires that trucks travel between farms to pick up animal carcasses), there could be an increase in disease transmission and mortality along with the corresponding economic impacts on farmers.

In many areas there is also a lack of reasonable and economic alternatives (e.g., rendering, composting, burial) to incineration. For example, burial is often prohibited due to water quality concerns and the potential for pathogen contamination. Therefore, any regulation that adds to the costs of operating an animal incinerator would mean additional costs to farmers in areas without disposal alternatives.

Taking these concerns into account, EPA has determined that the adverse impacts associated with regulation of animal crematories outweigh the benefits of regulation and these units are not included as a subcategory of OSWI for regulation.

Comment: One commenter (OAR-2003-0156) did not agree that the act of regulating animal incineration units renders these units economically infeasible. The commenter noted that they have active units permitted within the State of Michigan. The State permits for these types of units require minimum temperature and residence times, records of temperatures and waste amounts and type, and a particulate matter (PM) limit of 0.2 lbs. per 1,000 lbs. of exhaust gas. As such, the commenter found that the additional costs to operate the animal incinerator unit are minimal. The commenter supports regulating animal crematory units for particulate matter, stating that emissions of the other eight pollutants regulated under CAA section 129 regulations are emitted in extremely low concentrations from these units. Additionally, the commenter suggested allowing a manufacturer's certified PM test for an identical unit to be allowable in lieu of testing on the actual unit subject to the regulations.

Response: While we have discretion over which types of combustion units to regulate under CAA section 129, once we determine that a subcategory of units should be regulated under CAA section 129 we have no discretion as to which pollutants to regulate. If we were to regulate animal crematories under CAA section 129, we would be required to set emission limits for all pollutants listed in section 129 (Cadmium [Cd], carbon monoxide [CO], dioxins/furans, hydrogen chloride [HCl], lead [Pb], mercury [Hg], nitrogen oxides [NOx], PM, sulfur dioxide [SO2], and opacity). Furthermore, we would have to base the emission limits on MACT, as defined in CAA section 129. For existing sources, MACT must be no less stringent than the average emission limitation achieved by the best performing 12 percent of units in the category. For new sources, MACT must be at least as stringent as the emission control achieved in practice by the best-

controlled similar unit. Furthermore, CAA section 129 rules must contain operator training and qualification requirements as well as testing, permitting, monitoring, and reporting requirements. We do not have the flexibility under CAA section 129 to implement the commenter's suggestion of regulating only PM, nor to rely on manufacturer's tests of similar units rather than requiring site-specific tests of each unit for all nine regulated pollutants. Therefore, if we were to regulate animal incineration units under CAA section 129, owners/operators would be required to control emissions of all section 129 pollutants, obtain permits, conduct emission testing for all pollutants, monitor emissions or operating parameters to demonstrate continuous compliance, and meet operator training and certification requirements. This combination of requirements would be costly and would discourage incineration, as documented in the impacts memorandum prepared prior to proposal. For the reasons stated in the previous response, we are not regulating animal crematories as a subcategory of OSWI. States are free to regulate these units under State authorities.

3.8 CONTAMINATED SOIL TREATMENT FACILITIES

Comment: One commenter (OAR-2003-0156-0070) contended that soil treatment facilities that are burning non-hazardous waste are solid waste incinerators and, as such, must be regulated by a CAA section 129 standard. The commenter noted that both of EPA's claims for why these units should be exempt are without merit. The commenter argues that incinerators regulated under RCRA subtitle I are sources combusting non-hazardous waste and, therefore, must be regulated under CAA section 129. The second argument of these units being excused from standards because they are regulated under a CAA section 112 standard is, according to the commenter, irrelevant. Furthermore, the commenter pointed out that the CAA section 112 regulations would only apply to major sources and EPA would still be under obligation to establish emission standards for all non-major sources.

Response: Typically, contaminants being removed from soils are either hazardous wastes or petroleum products leaked from underground storage tanks. As EPA discussed in the preamble to the proposed rules, there are regulations in place for hazardous waste soil treatment facilities in RCRA subtitle C and CAA section 129 exempts hazardous wastes so these units cannot be covered by the OSWI rules. Soil treatment (site remediation) at major sources is already regulated under CAA section 112 (NESHAP for site remediations). Petroleum

underground storage tank (UST) remediations, which are non-hazardous wastes, are regulated under RCRA subtitle I. Subtitle I of RCRA specifies stringent site-specific environmental safeguards. Since each site and the remediation thereof may require different treatment methods, subtitle I is designed to ensure a high degree of pollution control for a variety of possible treatment options and a high degree of local regulatory and citizen involvement in selecting the use of equipment and environmental safeguards. The requirements for UST corrective actions (See 40 CFR 280.60-67) contain provisions for approval of a corrective action plan that will "adequately protect human health, safety, and the environment." This plan takes into account the regulated substance being removed, hydrogeologic characteristics of the site, surface and groundwater proximity, and other site specific features. Additionally, an exposure assessment and a public notification of the leak and proposed corrective action are required. Any health concerns for the type of remediation selected (i.e., incineration or various other soil treatment alternatives) must be considered by the agency (and the public) before approving the corrective action plan. EPA concludes that RCRA subtitle I adequately addresses UST soil remediation in a way that accommodates unique, site-specific issues, and additional national regulation of these units under the final OSWI rules is not warranted.

As discussed in earlier responses, inherent in EPA's implementation of CAA section 129 is the discretion to reasonably define what constitutes the statutorily undefined other categories of solid waste incineration units and to determine which of these other units warrant regulation under CAA section 129. Furthermore, any source regulated under CAA section 112 is not subject to CAA section 129. Recall again that major source site remediations are regulated under a CAA section 112 NESHAP. Therefore, if at some future date, EPA decides that further regulation (above the requirements of RCRA subtitle I) is warranted for non-major source soil remediation sites, then it would be more appropriate and consistent to regulate them as a CAA section 112 area source since the major sources are already regulated under a CAA section 112 rule.

3.9 RURAL INSTITUTIONAL WASTE INCINERATION UNITS

Comment: Two commenters (OAR-2003-0156-0052, 0075) suggested that the exemption for rural institutional waste incinerators is too broad. The exemption applies to institutional waste incinerators that are more than 50 miles from the boundary of the nearest Metropolitan Statistical Area (MSA). The commenters put forth two issues with this approach, and suggested an alternate proposal that would remedy the situation.

1. One commenter (OAR-2003-0156-0052) noted that in the preamble, this exemption is justified on the grounds that waste collection, transport and disposal services are often costly and limited in availability, or entirely lacking in rural areas. The commenter contended that the locations proposed to be exempted include many areas where solid waste collection and disposal services are readily available at reasonable cost, and therefore, the exemption is not justified. The commenter noted that there are several cities in New Mexico where this exemption would apply, but municipal or commercial trash collection and disposal services are readily available and are in use in these cities. Similarly, the other commenter (OAR-2003-0156-0075) noted that some communities with 45,000 people would be exempt, even though these areas may have options for waste disposal other than incineration.
2. One commenter (OAR-2003-0156-0052) pointed out that EPA considered the limited tax base of rural communities in the decision to exempt rural institutional incinerators from the requirements of these subparts. However, the commenter contended, this raises questions regarding environmental justice, as the exemption implies that economically disadvantaged communities should have lower air quality standards because they are economically disadvantaged. Similarly, commenter OAR-2003-0075 contended that EPA did not consider the costs of the adverse health impacts associated with incineration when it deemed that the cost of disposal was one of the bases of this exemption.

Both commenters recommended that the rural exemption be narrowed further to specifically include only those areas where landfills or other non-incineration options are not available or feasible. One commenter (OAR-2003-0156-0052) recommended that EPA limit exempted locations to areas [outside] 50 miles of a Metropolitan or Micropolitan Statistical Area.

Micropolitan Statistical Areas are defined by the Office of Management and Budget (OMB) as areas having at least one cluster of at least 10,000, but less than 50,000 population, plus adjacent territory that has a high degree of social and economic integration with the core community. The commenter stated that using this criterion would more accurately limit the exemption to those areas that are truly rural and lacking in solid waste disposal alternatives.

Response: To address commenters' concerns, EPA is narrowing the rural institutional waste incinerator exclusion to apply only to those IWI units that are more than 50 miles from the boundary of the nearest Metropolitan Statistical Areas (MSA) and where alternative disposal options are not available or are economically infeasible. In the final OSWI rules, there are provisions that specify how a facility may apply for this exclusion. For existing units, the application must be submitted to the Administrator at least 1 year before the final compliance date to ensure that there is adequate time for any additional dialogue necessary to determine if an exclusion is warranted, and, if the exclusion is denied, adequate time for the facility to install controls or otherwise arrange for disposal of their waste. For new units, the application must be submitted to and approved by the Administrator prior to initial startup.

By narrowing the exclusion to include only those areas "where alternative disposal options are not available or are economically infeasible," we have addressed the commenter's concern that we should not exempt sources located where waste disposal alternatives are available at a reasonable cost. Therefore, we are not changing the geographical parameters to "50 miles from a Micropolitan Statistical Area" as suggested by a commenter. Our analysis of remote institutional waste disposal costs indicates that a 50 mile distance to dispose of waste is approximately the distance where the costs of operating an incinerator (without control technology) would equal those of taking the waste to a landfill, transfer station, or small or large MWC unit. As such, we believe that 50 miles from a MSA is a minimum point where institutional facilities would be able to make a legitimate case that they qualify for the exclusion. To clarify the geographical criteria, the MSA definitions that will be used as one component of the exclusion are based upon those found in "*Updated Statistical Definitions and Their Uses*" OMB Bulletin 05-02, February 22, 2005.

We realize that, over time, population density changes may cause revisions to the definitions of MSA that would affect the rural status of a rural IWI unit. Furthermore, there may be situations where alternative waste disposal options become available such that the unit may not

be able to demonstrate adverse economic impacts of using an alternative means of disposal or the IWI unit is no longer necessary to the institutional facility. To address these situations, we are adding provisions that require sources granted an exclusion as a rural IWI unit to reapply for the exclusion every 5 years following the date the exclusion is granted by the Administrator. If the Administrator finds that the IWI unit no longer qualifies for the exclusion, then the unit is given 3 years to comply with the requirements of the final OSWI rules.

In response to the second issue put forth by the commenter, we disagree that we are implying that economically disadvantaged communities should have worse air quality. As we have discussed in the preamble to the proposed rules, some disposal alternatives to incineration, such as open burning, are worse for air quality than incineration. If the rural institutional facility is unable to afford compliance and there are no other disposal alternatives (e.g., landfills, MWC), then the facility may resort to open burning, littering, or dumping. Open burning presents not only air pollution problems, but can also lead to an increased likelihood of accidental fires. Littering and dumping pose problems such as potential contamination of streams or other water bodies, and attracting vermin and wild animals, which could contribute to disease transmission. The facility, in applying for the rural IWI unit exclusion, must make a case that suitable alternatives, such as landfilling or hauling waste to a MWC, are not available or are not economically feasible.

Comment: One commenter (OAR-2003-0156-0052) noted that the proposed exemption for rural IWI would apply to Department of Defense facilities such as military bases. The commenter pointed out that these facilities do not have the limited tax base and, therefore, EPA's reasons for the rural exemption do not apply.

Response: Although we discussed concerns about the local tax base for school districts in the preamble to the proposed rules, it was but one reason for the exclusion which applies to all rural IWI units, not just those located at schools. Thus, other institutions (e.g., Federal facilities, churches) may apply for the exclusion, although we note that certain institutions with larger budgets may have a harder time showing that alternative waste disposal options are economically infeasible. Also note that comments on national security incinerators are addressed later in this document.

Comment: One commenter (OAR-2003-0156-0070) contended that the policy arguments for refusing to establish CAA section 129 emission standards for rural IWI are irrelevant. The

commenter argued that EPA provided no justification that the rules would be prohibitively costly or could not be covered by budgets for schools and institutional facilities in rural areas.

Response: We disagree with the commenter in that we have provided no justification that the rules would be costly and that budgets for schools and institutional facilities in rural areas may not be able to cover the costs. Compliance costs were documented at proposal in the memo entitled "Other Solid Waste Incineration (OSWI) Unit Control Options and Costs"(See Docket No. OAR-2003-0156). For a small batch unit with a 1 tpd waste throughput capacity, the annual cost for the incinerator itself, including annualized capital costs and annual operating and maintenance (O&M) costs, is approximately $26,000/year. The annual cost of a wet scrubber and the monitoring, recordkeeping, and reporting required by the rules (including annualized capital cost of the scrubber and monitoring equipment, and annual O&M, permitting and reporting costs) is approximately $162,000/year, which is more than 6 times the cost of the uncontrolled incinerator. For an intermittent model unit with a 5 tpd throughput capacity, the annual cost of the incinerator itself is approximately $63,000. The annual cost of control is approximately $176,000, which is almost 3 times the cost of the uncontrolled incinerator. Also, as explained in previous responses in this section, the final rules require a facility to apply for the rural IWI exclusion. The application must demonstrate that the facility is more than 50 miles from the boundary of the nearest MSA and that other alternatives for disposal are not available or are economically infeasible.

3.10 AIR CURTAIN INCINERATORS

Comment: One commenter (OAR-2003-0156-0060) argued that air curtain incinerators should not be classified as incinerators and technically, do not fit the definition of an incinerator. The commenter noted that incinerators are purchased to burn waste, with the incinerating heat typically being provided by a hydrocarbon fuel. The commenter contended that air curtain incinerators do not require supplemental fuel, and are more accurately described as a pollution control device for open burning. The commenter stated that they have test data developed by various governmental agencies that support the performance of air curtain incinerators. As an example, the commenter noted that the average PM emission factor of 1.1 pounds per ton (lb/ton) of material burned was measured by the United States Department of Agriculture (USDA) Forest Service, as compared to the USDA Forest Service PM standard for open burning of 36.9 lb/ton

material burned. The commenter requested that EPA create a separate category for "air curtain machines," and that regulations for the category of air curtain machines should aim to better clarify for State regulators where air curtain technology can and cannot be used and to emphasize that these units are a tool to be employed in an effort to reduce emissions.

Response: EPA disagrees with the commenter's assertion that air curtain incinerators are more accurately described as a pollution control device for open burning. These units are designed, built and purchased exclusively to burn waste in a prepared and contained area, either a box or trench with air supply control fans and ductwork. Air curtain incinerators are specifically called out in CAA section 129. Therefore, if these units are used to burn institutional waste or municipal solid waste and meet the applicability requirements specified in the final rules, then they would be considered to be an OSWI unit. Note that, in accordance with air curtain incinerator language in CAA section 129, we already provide reduced requirements for air curtain incinerators burning only clean lumber, wood waste and yard waste. Air curtain incinerators burning only these materials do not have to meet emission limits for all CAA section 129 pollutants, instead only having to comply with an opacity limit.

Comment: One commenter (OAR-2003-0156-0060) proposed the following three-zone approach to employing the use of air curtain incinerators:

> Zone 1 – Area where no open burning is allowed and air curtain machines would be allowed only with special exceptions (i.e., emergencies, hurricanes, ice storms, forest fuels reduction, etc.)
>
> Zone 2 – Area where moving away from open burning altogether causes some hardships. As is appropriate and determined by the local air quality staff, you move out of open burning but allow air curtain machines.
>
> Zone 3 – Area where it will be a long time before you can move out of open burning due to economic impacts, agricultural concerns, etc. Here you offer an economic incentive to use air curtain machines (i.e., extended burning time with the machines, 6 hours for open burning, 12 to 24 hours for air curtain machines).

Furthermore, the commenter advocated a State controlled manufacturer's certification for air curtain incinerators to ensure the unit is designed and applied correctly to reduce PM emissions.

Response: To address this comment, we reviewed the exclusions for which air curtain incinerators may qualify. In doing this review, we realized that air curtain incinerators were not specifically mentioned in the exclusion for temporary-use incinerators used in disaster or emergency recovery efforts. To remedy this, we are clarifying that the temporary-use incinerators used in disaster or emergency recovery efforts exclusion includes air-curtain incinerators used for these purposes. We realize that air curtain incinerators may be particularly useful in disaster recovery efforts, and intend that they may also qualify for this particular exclusion.

Regarding the commenter's second recommendation on manufacturer's certification for PM emissions, we note that there are only opacity limits specified for air curtain incinerators burning only clean lumber, wood waste, and yard waste. Therefore, air curtain incinerators burning these materials are already offered reduced regulatory requirements. Of course, if an OSWI unit is an air curtain incinerator and is combusting institutional waste or municipal solid waste that is not clean lumber, wood waste, or yard waste, then the unit would have to meet all of the requirements specified in the final OSWI rules. Under section 129 of the CAA, we are required to set emission limits for all section 129 pollutants for OSWI units, except those air curtain incinerators that burn only clean lumber, wood waste and yard waste. Section 129 of the CAA requires uniform national standards for those types of units EPA determines should be regulated and does not allow a different approach in different zones.

Comment: One commenter (OAR-2003-0156-0060) asked whether an air curtain incinerator that is subject to the NSPS for CISWI is excluded from the proposed OSWI rule.

Response: Yes, as stated in 40 CFR 60.2887 and 40 CFR 60.2993 of the proposed OSWI rules, the OSWI rules do not apply to incineration units that are required to meet the emission limitations and other requirements of the CISWI rules in 40 CFR 60 subparts CCCC or DDDD.

Comment: One commenter (OAR-2003-0156-0060) contended that rural IWI and incinerators in isolated areas of Alaska probably emit as much as air curtain incinerators burning institutional solid waste in any other location. Air curtain incinerators, like the rural and Alaskan incinerators, are very small sources of emissions and are unlikely to cause air quality problems. Therefore, the exemption provided to the rural and Alaska incinerators should also be extended to air curtain incinerators.

Response: We disagree with the commenter's premise that the exclusion for incinerators located in isolated areas of Alaska is based on emissions. As we explain in the preamble to the

proposed rules, there are locations in Alaska where limited options exist for solid waste disposal. These areas face unique situations that are not encountered elsewhere in the United States, and incinerators located in these areas merit special consideration. In these instances, alternatives to landfilling are unavailable. Many communities do not have year-round road access so that waste transportation options are not available. Climatic conditions make effective local landfilling difficult or even technically infeasible. Without an exclusion from the requirements, incineration would become prohibitively expensive. In the absence of waste incineration, there are serious health and wildlife risks that would be imposed on the small Alaskan communities served by these units as a result of open dumping of municipal waste (in areas where a properly designed landfill is not available due to permafrost and land conditions). Additional descriptions of these unique conditions are contained in the preamble to the proposed rules. We do not see a similar situation existing for air curtain incinerators operating in areas outside of isolated Alaskan regions, and therefore, have not provided an exclusion for them.

Comment: One commenter (OAR-2003-0156-0065) stated that air curtain incinerators burning 100 percent wood waste need to be included in the applicability if there are requirements in the rule that apply to these types of units.

Response: As noted previously, if an air curtain incinerator meets the definition of an IWI or VSMWC unit, then the unit is an OSWI unit. For air curtain incinerators that would otherwise meet the definition of an OSWI, but burn only wood waste, clean lumber, or yard waste, there are reduced requirements consisting primarily of opacity limits and title V operating permits (See title V discussions later in this document). Provisions for existing air curtain incinerators burning only wood waste, clean lumber and yard waste are specified in 40 CFR 60.3062 through 40 CFR 60.3069, and in 40 CFR 60.2970 through 40 CFR 60.2974 for new units.

However, we agree that perhaps more clarity is needed in the final OSWI regulations regarding the applicability and requirements for air curtain incinerators burning only wood waste, clean lumber, or yard waste. For existing units, we have revised the applicability language in 40 CFR 60.2991 and 40 CFR 60.2994(b) to clarify that air curtain incinerators burning only wood waste, clean lumber, or yard waste that would otherwise meet the definition of an IWI or VSMWC (e.g., wood waste, clean lumber, or yard waste is generated and burned in an air curtain incinerator at an institutional facility; or the wood waste, clean lumber, or yard waste is collected from the general public and from residential, commercial, institutional, and industrial sources and

burned in an air curtain incinerator with a capacity to combust less than 35 tpd) are subject to the requirements of these subparts. The proposed rules did not clearly delineate which air curtain incinerators burning wood waste, clean lumber, or yard waste were addressed by 40 CFR 60 subparts EEEE and FFFF, and did not clearly express that the title V requirements also applied to these air curtain incinerators. We made the analogous revisions in the NSPS to apply to new units.

3.11 INCINERATORS IN ISOLATED AREAS OF ALASKA

Comment: One commenter (OAR-2003-0156-0070) contended that the policy arguments for refusing to establish CAA section 129 emission standards for incinerators and air curtain incinerators in isolated areas of Alaska are irrelevant. The commenter proceeded to explain that EPA does not dispute that these units are solid waste incineration units within the meaning of CAA section 129. Furthermore, these units are not exempted under CAA section 129(g)(1) nor are they regulated under any other CAA section 129 regulations. Therefore, the commenter argues, emission standards under CAA section 129 must be established for these units and EPA's policy arguments are without merit.

Response: As discussed previously in this document, inherent in EPA's implementation of CAA section 129 is the discretion to reasonably define what constitutes the statutorily undefined category of OSWI units to determine which of these other solid waste incineration units warrant regulation under CAA section 129. After collecting data on potential OSWI units, we concluded that the OSWI rule should focus on IWI and VSMWC units. However, we concluded that some subclasses of units that we considered for regulation within the OSWI category should be handled differently due to unusual circumstances (e.g., unique geographic locations or climatic factors, as is the case for isolated areas of Alaska) that would prevent these units from having a feasible alternative waste disposal method. Therefore, we have excluded this subclass from the final OSWI rules for the reasons described in the preamble to the proposed rules.

Comment: Two commenters (OAR-2003-0156-0056, OAR-223-0156-0073) expressed concern that the proposed rules do not exempt VSMWC units used to combust municipal-type waste generated at oil-field base operations facilities and remote camps on Alaskan oil fields. Both commenters pointed out that wet scrubbers are not practical or cost-effective in an Arctic environment. They also pointed out the cost-prohibitive nature of mobilizing personnel and

equipment to conduct the required initial and annual performance tests, and that stack testing under such extreme conditions would pose many challenges.

One commenter (OAR-2003-0156-0073) explained that municipal solid waste and oily waste streams are generated at self-sufficient pump stations along the 800-mile Trans-Alaska Pipeline. Prior to the promulgation of the CISWI rule in November 1999, the oily waste was incinerated along with the majority of the municipal solid waste. Following the rule, the majority of the oily waste was shipped out of State for disposal and several of the MSW incinerators were shut down since they did not qualify for exemption and wet scrubbers are not desirable in the Alaskan climate. The commenter went on to say that the current proposed rule will eliminate the remaining MSW incineration, as these units qualify as VSMWC units. The commenter stated that experience shows that this will cause significant wildlife issues, as kitchen waste, no matter how well contained, will leak and release odors. These scents attract bears and foxes, which often carry rabies and create a safety hazard for the workers. Such circumstances will increase animal hazing and the possibility of needing to destroy animals to protect workers. The commenter finds this possibility undesirable and believes it is not EPA's intent in writing the proposed rule. The commenter also stated that local landfilling is not generally an option due to local ordinances and/or economic feasibility. The other commenter (OAR-2003-0156-0056) also pointed out that incineration poses less environmental impact than transporting waste across long expanses of tundra to a landfill. Both commenters suggested that EPA either:

1. Broaden the exclusion provided at 40 CFR 60.2887(g) [and 40 CFR 60.2993(g)] to include VSMWC that are located at remote sites, but that are not located at Class II or Class III MSW landfills in Alaska; or
2. Broaden the exclusion provided at 40 CFR 60.2887(h) [and 40 CFR 60.2993(h)] to include rural VSMWC (non-institutional) units; or
3. Create an additional subcategory and exclusion for certain VSMWC units located in isolated or remote areas.

One commenter (OAR-2003-0156-0073) believes that broadening the exclusion to include rural VSMWC units such as those along the Alaskan pipeline is the best course of action. However, in the event that EPA wants to investigate the option of creating a subcategory, an attachment containing information in support of such action was included with the comments. The other commenter (OAR-2003-0156-0056) recommended that EPA encourage manufacturers

to develop small or portable incinerators designed for operation at remote locations that are inherently more efficient and have lower emissions than those currently available and exempt these units from the OSWI rules.

Response: EPA stresses that the final OSWI rules apply only to VSMWC and IWI units, and they provide an exclusion for units used at solid waste disposal sites in Alaska that are classified as Class II or Class III municipal solid waste landfills. If the incinerators operated by the commenters meet the definition of VSMWC units and are used at solid waste disposal sites in Alaska that are classified as Class II or Class III municipal solid waste landfills, then they would be excluded from the final OSWI rules. We have insufficient information about the units operated by these commenters (e.g., operating at an oil exploration site or oil-field base camp) to determine if they are VSMWC units, but they appear to be operated by industrial or commercial entities and would likely not meet the definitions of a VSMWC or IWI unit in the final OSWI rules. To be a VSMWC unit under the final OSWI rules, the incinerator must be burning municipal solid waste collected from multiple sites. To be an IWI unit under the final OSWI rules, the incinerator must be located at an institutional facility (i.e., land-based facility owned or operated by an organization having a governmental, educational, civic, or religious purpose) and be burning waste generated at that institutional facility. Incinerators at an industrial or commercial facility that burn only waste generated on site at that facility are not VSMWC or IWI units. If the commenter's units are not VSMWC or IWI units, they would not be subject to the final OSWI rules. We recognize that the final CISWI rules do not currently cover commercial/industrial-owned/operated incinerators that burn only municipal-type waste. EPA intends to address regulation of such combustion units under future revisions to the final CISWI rules. Regarding the last comment, EPA is, of course, interested in manufacturers developing environmentally sound devices with low emissions. However, "encouraging manufacturers to develop" incinerators, or any other devices, is beyond the purview of CAA section 129 regulations.

Comment: One commenter (OAR-2003-0156-0063) stated that they do not believe that CAA section 129 mandates EPA to regulate all incinerators everywhere, no matter what the cost or environmental benefit. The commenter pointed out that Section 111 requires the development of emission guidelines for new and existing sources "that cause or contribute significantly to air pollution that may reasonably be anticipated to endanger public health or welfare." The commenter does not believe the proposed rule is a "reasonable" measure for small incinerators,

which don't emit "significant" air pollution. The commenter does not believe that EPA clearly understands the implications of subjecting small Alaskan sources to the proposed OSWI regulation, which, if adopted, would force most operators in Alaska to shut down as it will be neither economical nor technically feasible to comply with the regulation. The commenter believes that units less than 5 tons per day need not be regulated, as the effects of pollution are minuscule and viable alternatives to incineration are very few in Alaska due to transportation difficulties.

Response: The final OSWI rules apply only to VSMWC and IWI units. As we have pointed out in earlier responses, we have provided an exclusion for units used at solid waste disposal sites in Alaska that are classified as Class II or Class III municipal solid waste landfills, as well as an exclusion for rural IWI units (for IWI located more than 50 miles from the boundary of the nearest MSA and where alternative disposal options are not available or are economically infeasible). These exclusions fully address small OSWI units in remote areas of Alaska that do not have technically or economically feasible disposal alternatives, so the types of units the commenter is concerned about will not be covered by the final OSWI rules.

Comment: One commenter (OAR-2003-0156-0063) expressed concern that the proposed definitions of institution and institutional waste are excessively restrictive and do not fit the unique situations that arise in Alaska. The commenter gave examples such as the existence of "unorganized" boroughs that have no local government or tax base. There are also situations where a local governing unit could not be considered a governmental unit for purposes of the definition of "institution" in the proposed regulation. Yet, these entities are the operators of the incinerators that benefit the community. The commenter also offered the example of a local entity not supplying an operator for an incinerator if the incinerator itself was part of a long-term lease/purchase agreement with a commercial entity (i.e., the equipment lessor provides operating personnel). Such arrangements are common, since grant funds may be used to secure these services for a fixed period of time. According to the proposed rule, these incinerators are commercial entities and thus, subject to the regulation. If these small commercially operated units are not exempted from the proposed regulation, local incineration would no longer be economically or technically feasible.

Response: EPA's understanding of the local government structure in Alaska is that there are two types of local government structures: boroughs and unorganized areas. Boroughs, like

counties, are collections of one or more municipalities joined in a regional government. Unorganized areas are the non-borough areas where there is either (1) no intermediate government between the State and the tribal, village, or city council, and local government is strictly at the municipal level or (2) no governing body other than the State. We have provided an exclusion for units used at solid waste disposal sites in Alaska that are classified as Class II or Class III municipal solid waste landfills. The State of Alaska does not consider the local government structure in determining the class of a municipal solid waste landfill or waste disposal site. The Class II and III determinations are based on the anticipated waste volume and location of the waste disposal site. Further, the incinerators that dispose of municipal solid waste "collected from" these boroughs and unorganized areas would be VSMWC units, rather than IWI units, so the commenter's concerns regarding the definitions of institution and institutional waste with respect to incinerators serving these local government structures are not relevant.

We would also like to clarify that an incinerator operated by a commercial entity that is burning municipal solid waste that is "collected from" multiple residences and any local businesses would be considered a VSMWC unit subject to OSWI regulation, provided that it had a capacity of less than 35 tons per day of municipal solid waste. This situation is quite common among the small and large MWC units, as several municipalities have contracted or partnered with commercial operators in the construction and operation of their local MWC facility.

In summary, the final OSWI rules apply only to VSMWC and IWI units. As previously described, we have provided an exclusion for units used at solid waste disposal sites in Alaska that are classified as Class II or Class III municipal solid waste landfills, as well as an exclusion for rural IWI units (for IWI units located more than 50 miles from the boundary of the nearest MSA and where alternative disposal options are not available or are economically infeasible). These exclusions fully address small OSWI units in remote areas of Alaska that do not have technically or economically feasible disposal alternatives, so the concerns raised by the commenters are addressed in the final OSWI rules.

Comment: One commenter (OAR-2003-0156-0063) discussed a small, Alaskan incinerator, which burns a combination of exempted wastes (pathological wastes and contraband), but is not exempt itself. Because there are few alternatives for waste disposal for such materials, the commenter believes incinerators burning multiple exempted materials should be exempted as well.

Response: The exclusion for units burning contraband is limited to units owned and operated by a government agency such as police, customs, agricultural inspection, or a similar agency to destroy only illegal or prohibited goods such as illegal drugs or agricultural food products that cannot be transported into the country or across State lines to prevent biocontamination. Incineration units that are not operated by government agencies generally would not be burning contraband and would not qualify for this exclusion. We do not know if the unit mentioned by the commenter is a government unit. Other than this one possible example, we do not know of units that would otherwise be IWI or VSMWC units and are burning mixtures of multiple excluded materials but no other wastes. Units burning a mixture of exempted wastes are very unusual situations which we cannot well anticipate and would require case-by-case determinations. We suggest that any such units contact their regional EPA office for a determination.

Comment: One commenter (OAR-2003-0156-0063) noted that current annual costs for small incinerators in both rural and urban Alaska is much less than $50,000 per year and annual revenue is generally less than $150,000 per year. Yet, the cost of doing the emission testing required by the proposed rule will cost considerably more than the EPA estimate due to the unique setting of Alaskan incinerators. Testing would require flying people in to perform the test, a second flight for all the equipment, a delay while waiting for the source to operate, since stockpiling waste is very risky in "polar bear country." The samples would be likely to degrade due to handling, transport, and time. The commenter estimated that the cost of compliance with the proposed rule for a small 5 ton per day incinerator would be around $300,000 per year.

Response: Although this particular comment pertains to testing costs in Alaska, we believe that the commenter's concerns are properly addressed by the exclusion for incinerators operated in isolated areas of Alaska. The exclusion provided for OSWI units in isolated areas of Alaska addresses the issues resulting from the "unique setting of Alaskan incinerators." Prior responses in this section discuss how IWI and VSMWC units used at solid waste disposal sites in Alaska that are classified as Class II or III municipal solid waste landfills are excluded from the final OSWI rules and do not need to meet the requirements (i.e., emission limits, compliance testing, monitoring, etc.) specified therein.

Comment: One commenter (OAR-2003-0156-0063) questioned EPA's assumption that no new OSWI units will be constructed. The commenter's firm builds low-cost, portable, small

capacity incinerators that are energy efficient and require little training to operate. The envisioned uses for these units are for waste disposal from closed oil exploration rigs, temporary work camps, and demolition and construction wastes from villages. The proposed rule would keep new OSWI units such as these from being built, since the proposed emission standards would require them to use emission controls that can not be used with such small units and which do not operate under the conditions in Alaska. The commenter believes that the proposed rule will force Alaskans currently using incineration to resort to open burning.

Response: The units described by the commenter are most likely not IWI or VSMWC units, or if so, they would likely be excluded from the final OSWI rules due to their use at solid waste disposal sites that are classified as Class II or III municipal solid waste landfills. It is not appropriate to include these units in OSWI impacts estimates if the final OSWI rules do not apply to them.

3.12 TEMPORARY-USE INCINERATORS

Comment: Two commenters (OAR-2003-0156-0052, 0075) contended that the requirements for temporary-use incinerators used in disaster recovery are too lax and invite abuse. The commenters pointed out that the Stafford Act, which provides for a State of Emergency or a major disaster to be declared by a State government or the President of the U.S., does not contain any provisions for declaring that the State of Emergency or disaster has ended. As such, under the proposed rules, these incinerators would be allowed to operate indefinitely without any restrictions. Both commenters urged EPA to consider a time limit for how long such an exemption should continue. One commenter (OAR-2003-0156-0052) proposed that 40 CFR 60.2969(a) and 60.3061(a) be revised to include: 1) Notification to the Administrator within 10 days of beginning operation, and 2) exemption from requirements of this subpart until incineration is no longer necessary for protection of public health and safety, but in no case any longer than six months after the disaster declaration.

Response: EPA agrees that some notification and oversight should be required to avoid temporary-use incinerators being operated indefinitely in areas that are declared States of Emergency by the State, local or Federal government. Therefore, the final rules require that operators of temporary-use incinerators combusting debris in declared emergency or disaster areas notify the Administrator if it is necessary for the units to combust debris within the

boundaries of a given emergency or disaster area for more than 8 weeks from the date the units began operation, and request permission to continue to operate. EPA's intent is that if a unit is used during a period that begins on the date the unit started operation and lasts 8 weeks or less, then that unit is excluded from the requirements of the final rules. A unit that operates intermittently for 8 weeks or less over a period longer than 8 weeks from the date the unit started operation (e.g., over a 12-week period) does not meet the requirement for exclusion.

The notification must be submitted in writing by the date 8 weeks after the temporary-use incinerator begins operating within the boundaries of the current emergency or disaster area. The notification must contain the date the incinerator began operation within the current emergency or disaster area, identification of the disaster or emergency for which the incinerator is being used, a description of the types of materials being burned, information on the size and design of the incinerator, the reasons the incinerator must be operated for more than 8 weeks, and the additional amount of time for which permission to operate is requested, including a date for ceasing operation. Upon submittal of the notification, the temporary-use incinerator automatically may operate for another 8 weeks (a total of 16 weeks from the date the unit started operation). At the end of 16 weeks, the temporary-use incinerator must cease operation or comply with the OSWI emission limits and other requirements of the final OSWI rules unless the Administrator has approved the request to continue operation.

Given these changes, 16 weeks will be the maximum length of time a temporary-use incinerator can operate in a given area declared a State of Emergency or major disaster without specific permission to continue operation from the Administrator. The approval of the request to continue operating must establish a site-specific date to cease operation. We have chosen this approach, rather than setting a uniform maximum amount of time because a case-by-case approval process allows EPA and States to set the appropriate time limits for the specific situation. In some cases, debris removal should be completed in less than 6 months, whereas in other cases (such as a major hurricane or ice storm affecting a large area) it is possible that debris clearing and incineration might be needed for longer than 6 months. With a case-by-case approval process, EPA and States can set the appropriate time limits for the specific situation..

We decided that the notification should be provided within 8 weeks after the start of operation to be consistent with the timing in the proposed rules for areas that had not been declared emergencies or major disasters by the State or Federal government. In emergency

situations, quick removal of debris is of utmost importance to maintain public health and safety, and temporary-use incinerators may be best suited to dispose of debris. We have elected not to regulate incinerators used on a short-term basis to recover from an emergency or disaster under the final OSWI rules, because regulation would hinder the recovery effort and this impact would outweigh the benefits from regulation of the units. Recent events in the Gulf States due to Hurricanes Katrina, Rita, and Wilma have illustrated the importance of immediate recovery action following a disaster. This proactive approach, which addresses the terms for use of a temporary-use incinerator during declared emergencies or disasters, is better than an approach that requires EPA and others to react during or immediately after such an emergency or disaster strikes. We also point out that States and the Federal government have specific procedures that are followed in declaring an area a State of Emergency or a major disaster area. Their procedures involve extensive involvement by local, State, and Federal officials to conduct a preliminary damage assessment, develop debris removal plans, and coordinate and manage disaster assistance activities. Further information on the processes can be found on individual State Web sites and on the Federal Emergency Management Agency (FEMA) Web site (www.fema.gov). Given that there is already a coordination process and we do not intend to regulate temporary-use incinerators operated for 8 weeks or less, an earlier notification requirement in the final OSWI rules is not necessary or productive.

Comment: Two commenters (OAR-2003-0156-0052, 0075) contended that the requirements for temporary-use incinerators combusting debris "in an area not declared a State of Emergency or major disaster" invites abuse. One commenter (OAR-2003-0156-0052) argued that as long as the incinerator is relocated at least every 8 weeks, it is completely excluded from requirements of the subpart, and the operator need not notify the Administrator or State air quality agency of its existence. The commenter contended that operators of portable incinerators could declare "emergencies" or "disasters" at their discretion, and travel from place to place burning any sort of debris without any pollution controls, restrictions of location, or public and agency notification requirements. The other commenter (OAR-20032-0156-0075) stated that the exemption would allow an uncontrolled unit to operate for up to 8 weeks without adequate cause or approval from the proper authority. One commenter (OAR-2003-0156-0052) urged EPA to strike 40 CFR 60.2969(b) and 60.3061(b) in entirety, because they apply to situations that are not emergencies or disasters as declared by any State or Federal official. The commenter cannot

imagine a situation where use of an incinerator is so urgently needed for protection of life, health and property that would not be declared an emergency or disaster by State or Federal government. The other commenter (OAR-2003-1056-0075) recommended that this exemption include more specific limits, such as prior approval or a shorter operating period.

Response: EPA agrees that incinerator owner/operators should not be allowed to declare their own "emergencies" and that was not our intent. We have adjusted the rules as proposed to exclude temporary-use incinerators used to combust debris for a limited period of time from most requirements of these subparts only if they are used in areas that have been declared a State of Emergency by a State or local government, or if the President, under the authority of the Stafford Act, has declared that an emergency or major disaster exists in the area. The inclusion of local disaster area declarations in this exclusion encompasses those disasters that severely affect a municipality or county and require the local government to undertake disaster recovery actions, but where the economic losses are not large enough or sufficiently widespread to require extensive State or Federal financial assistance. States have processes, or have the ability to establish processes, for local emergency declarations by local and State government agencies. We agree that if an emergency or disaster has not been declared by a local, State, or Federal agency, then the temporary-use incinerator should be required to comply with the final OSWI rules. Furthermore, as explained in the previous response, the requirement to request approval, if it is necessary for an incinerator to operate for more than 8 weeks to combust debris within the boundaries of a given emergency or disaster area, applies to temporary-use incinerators in areas declared emergencies or disasters by local, State, or Federal agencies.

Comment: One commenter (OAR-2003-0156-0052) suggested that EPA clarify whether the proposed regulations apply to temporary-use incinerators (including air curtain incinerators burning only wood waste, clean lumber, and yard waste, but not including incinerators used in disaster recovery). The commenter contended that they have seen conflicting interpretations regarding applicability of solid waste incineration regulations and other air quality standards to incinerators used temporarily at a given location. Specifically, the commenter requested that this clarification consider whether temporary portable incinerators should be considered "portable stationary sources," as with portable rock crushing and gravel processing plants subject to 40 CFR 60 subpart OOO. The commenter clarified that the State of New Mexico issues several permits each year for these types of units, and they usually are operated in one location for less

than a year. The commenter suggested that regulatory treatment of temporary-use OSWI units that is consistent with sources subject to 40 CFR 60 subpart OOO (e.g., portable rock crushers and gravel processing plants) is desirable.

Response: The intent of the proposed and final OSWI rules is to regulate incinerators that meet the definition of an IWI or VSMWC unit. This includes incinerators that are permanently located at one site, as well as incinerators that are portable and are temporarily used as an IWI or VSMWC unit. It does not include mobile sources (i.e., vehicles). It is common for air curtain incinerators to be rented to locations where land clearing, forest thinning or debris removal is needed. They may be operated for a few weeks and then returned and subsequently rented by another entity. If an air curtain incinerator (or other type of incinerator) is rented by an institutional facility and is temporarily located on the institutional facility's property and used to burn waste generated at the site, then it would meet the definition of an IWI unit, and would need to comply with the OSWI emission limits and other requirements of the final OSWI rules. Examples could include an air curtain incinerator temporarily located at a military base that is clearing land for additional barracks, or at a State or national forest or park that is removing brush to reduce the risk of fire. Note that if the temporary incinerator is an air curtain incinerator burning only clean lumber, wood waste, and/or yard waste then it must meet opacity limits and the requirements in 40 CFR 60.2970 through 40 CFR 60.2974 of subpart EEEE or 40 CFR 60.3062 through 40 CFR 60.3069 of subpart FFFF, but would not be required to meet other emission limits under the final OSWI rules. Also, if an incinerator is being used on a temporary basis to clear debris from an area declared a State of Emergency or major disaster by the local or State government or the President, then the incinerator may qualify for the temporary-use incinerator exclusion in the final OSWI rules.

Comment: One commenter (OAR-2003-0156-0065) asked that EPA add debris resulting from high winds and ice storms to the list of emergencies and disasters (i.e., tornado, hurricane, flood, or act of bioterrorism).

Response: To improve clarity, we have added high winds and ice storms to the list of examples of emergencies and disasters. Note that the list of disasters is for illustrative purposes and is not intended to be a comprehensive list of every type of disaster that could occur. If the incinerator is used temporarily to combust debris in an area that has been declared a State of Emergency by the State or local government, or the President, under the Stafford Act, has

declared that an emergency or major disaster exists in an area, then the incinerator falls under the provisions in 40 CFR 60.2969 of subpart EEEE or 40 CFR 60.3061 of subpart FFFF "What are the requirements for temporary-use incinerators and air curtain incinerators used in disaster recovery?."

Comment: One commenter (OAR-2003-0156-0070) contended that the policy arguments for refusing to establish CAA section 129 emission standards for temporary-use incinerators used in disaster recovery are irrelevant. These units are solid waste combustion units and, therefore, must be regulated under CAA section 129.

Response: We disagree with the commenter's assertion that section 129 of the CAA requires EPA to regulate under OSWI every solid waste combustion unit that is not already regulated under CAA section 129 rules, for reasons fully described in section 3.1 of this document. We maintain that inherent in EPA's implementation of CAA section 129 is the discretion to reasonably define what constitutes the statutorily undefined category of OSWI units in order to determine which of these other solid waste incineration units warrant regulation under CAA section 129. We find that, in certain catastrophic situations, an incinerator may be a very useful and necessary tool in the recovery process. Clean up and recovery efforts after disasters such as floods, tornadoes, and hurricanes are examples of situations where an incinerator may be useful and necessary. In these situations, quick removal of debris is of utmost importance to maintain public health and safety. Likewise, bioterrorist activities may warrant the immediate destruction of contaminated materials, in which case an incinerator may be best suited to perform the task. Accordingly, EPA considers that regulations imposed on incinerators used to recover from an emergency or disaster would hinder the recovery efforts and this impact would outweigh any benefits possible from regulation of the units. Therefore, we have excluded certain temporary-use incinerators used in disaster or emergency recovery from regulation under OSWI. However, as described earlier in this section, we have limited the exclusion in the final rules to incinerators used for debris removal in areas that have been declared a State of Emergency or disaster area by the State, local, or Federal government, and the owner/operator must request approval to continue operating if such an incinerator will be used for more than 8 weeks.

Comment: One commenter (OAR-2003-0156-0070) contended that EPA has not explained why it is infeasible for temporary-use incinerators to include air pollution controls or how requiring controls would delay commencement of operation. Therefore, the commenter

concluded, EPA has provided no basis for the assumption that controlling emissions from temporary-use incinerators would hinder recovery efforts.

Response: Regulation, under the final OSWI rules, of temporary-use incinerators used for disaster recovery efforts would discourage use of such incinerators, potentially hindering recovery efforts and impairing public health and safety. The emission limits in the final OSWI rules are based on wet scrubbing for any IWI and VSMWC units other than air curtain incinerators burning only clean lumber, wood waste, and yard waste. As previously described in section 3.9 of this document, compliance costs were documented at proposal, and for a small batch unit with a 1 tpd waste throughput capacity, the annual cost for the incinerator itself, including annualized capital costs and annual O&M costs, is approximately $26,000/year. The annual cost of a wet scrubber and the monitoring, recordkeeping, and reporting required by the rules (including annualized capital cost of the scrubber and monitoring equipment, and annual operation and maintenance (O&M), permitting and reporting costs) is approximately $162,000/year, which is more than 6 times the cost of owning and operating an uncontrolled incinerator. For an intermittent model unit with a 5 tpd throughput capacity, the annual cost of the incinerator itself is approximately $63,000. The annual cost of control is approximately $176,000, which is almost 3 times the cost of the uncontrolled incinerator. Even if the final OSWI rules were to require no add-on control for such incinerators, it is estimated that the annual cost of the testing, monitoring, recordkeeping and reporting required by CAA section 129 would be approximately $115,000 for these two model incinerators, which is 2 to more than 4 times the cost of owning and operating the uncontrolled incinerator. These sharp increases in regulatory compliance costs relative to the current cost of incineration would discourage use of incinerators. Furthermore, as evidenced by the recent recovery efforts due to Hurricanes Katrina, Rita, and Wilma, the water supply, handling and treatment capabilities required to operate the wet scrubber may be unavailable for long periods of time in the disaster areas, while the need for recovery is immediate. In such situations, the incinerator cannot stand idly by while awaiting ancillary services to operate the scrubber.

Declared States of Emergency and major disasters are, by definition, serious events. In emergency situations, quick removal of debris is of utmost importance to maintain public health and safety. Depending on the type of emergency and the local situation, there may be no reasonable and safe alternatives to incineration. In emergency situations, there is already a process for State, local, and Federal agencies to work together to conduct a preliminary damage

assessment, develop debris removal plans, and coordinate and manage disaster assistance activities. Further information on the processes can be found on individual State Web sites and on the FEMA Web site (www.fema.org). We do not want to impose requirements under the OSWI rules that would limit the flexibility of States and localities to use incineration on a temporary basis where the nature of the emergency and local conditions make incineration a useful and necessary part of a debris management strategy. Therefore, we have elected not to regulate, under the final OSWI rules, incinerators used on a short-term basis to recover from an emergency or disaster. Regulation would result in a large increase in the costs of incineration and could hinder the recovery effort, and this impact would outweigh any benefits possible from regulation of the units. Note that changes have been made to the final rule to limit the use of the exclusion relative to the proposed rule. The final rules require notification if it is necessary for a temporary-use incinerator to operate for more than 8 weeks to combust debris within the boundaries of a given emergency or disaster area.

The exclusion for emergency cleanup activities of short duration is not unique to the final OSWI rules. Other CAA programs and rules recognize the need to make allowances for similar situations. For example, the site remediation NESHAP (40 CFR 63 subpart GGGGG) provide an exclusion for site remediation activities that are completed within 30 consecutive calendar days. The preamble for the proposed rule explained that, "This exemption is intended to apply to contamination commonly caused by a spill where the cleanup is initiated soon after the spill event and is of very short duration (i.e., typically 30 days or less). The purpose of this exemption is to encourage prompt attention to remediating contaminant spills and leakages" (67 FR 49407, June 30, 2002). Similarly the OSWI exclusion of temporary-use incinerators encourages prompt cleanup of debris from emergencies or disasters and excludes only temporary-use incinerators that operate for a limited period of time within a declared disaster area. The phase 2 emission standards for new nonroad spark-ignition engines at or below 19 kilowatts (60 FR 90, subpart A) excludes engines that are used exclusively in emergency and rescue equipment where no certified engines are available to power the equipment safely and practically. As stated in the preamble for the proposed rule, EPA developed this exemption "to avoid any possible conflict between emission control and public safety" (63 FR 3999, January 27, 1998). This is similar to the rationale for the OSWI exclusion of temporary-use incinerators.

EPA programs to implement the National Ambient Air Quality Standards (NAAQS) also recognize the need to make special allowances for cleanup activities after disasters, as discussed in the "Guideline on the Identification and Use of Air Quality Data Affected by Exceptional Events" (EPA-450/4-86-007). This document pertains to ambient monitoring data that States collect and submit to EPA, which is used for purposes such as determining NAAQS attainment/nonattainment status, trends, control strategies, and compliance. The document defines "exceptional events" as "an event that is not expected to recur routinely in a given location, or that is possibly uncontrollable or unrealistic to control through the SIP process." There is a list of 17 specific types of exceptional events, and one of these is "cleanup activities after a major disaster." Major disasters are defined as "serious public misfortunes for which State or Federal relief has been granted." PM, CO, SO2, or other pollutant data affected by and collected during, or for a reasonable period after, the cleanup activities following a major disaster may be flagged by States. The document provides that EPA and States have discretion about whether and how such data should be used. It notes that the use of flagged data for State implementation plan (SIP) regulatory activities (e.g., area wide or local control strategy development, SIP design values, attainment/nonattainment status determinations, enforcement actions) shall be considered on a case by case basis. This policy recognizes the unique nature of disaster recovery and the need to make allowances for it in implementing air quality programs.

3.13 CONTRABAND OR PROHIBITED GOODS INCINERATION UNITS

Comment: Two commenters (OAR-2003-0156-0075, 0071) expressed the need for clarification of whether contraband packaging materials are included in the exemption for contraband burning. One commenter (OAR-2003-0156-0075) understands the need for law-enforcement officials to incinerate items in certain situations, but is concerned about a blanket exemption for burning contraband. Of particular concern to the commenter is the plastic packaging that could be included in the incinerated material. The commenter recommended that the rule at least require that plastic packaging be removed in order for the burning of the contraband to be excluded from the regulation. Another commenter (OAR-2003-0156-0071) expressed a differing opinion and recommended that EPA include the packaging material associated with burning drugs or other contraband in the exemption.

Response: While EPA encourages the removal of plastic packaging materials from the contraband prior to incineration, we realize that this may not be practical in all situations. For example, powders and other substances may need to be packaged in a form that is manageable for incineration. Therefore, we allow the government agency performing the incineration to decide whether the contraband should be incinerated "as confiscated" or if packaging removal is practical for the materials being burned.

Comment: One commenter (OAR-2003-0156-0070) contended that the policy arguments for refusing to establish CAA section 129 emission standards for incinerators that combust contraband or prohibited goods are irrelevant. The commenter argued that EPA has not explained how the requirement to control emissions would hinder or deter the use of incinerators for government agencies.

Response: We disagree with the commenter's assertion that section 129 of the CAA requires EPA to regulate under OSWI every solid waste combustion unit that is not already regulated under section 129 rules, for reasons fully described in section 3.1 of this document. We maintain that inherent in EPA's implementation of CAA section 129 is the discretion to reasonably define what constitutes the statutorily undefined category of OSWI units to determine which of these other solid waste incineration units warrant regulation under CAA section 129. As discussed in the preamble to the proposed rules, we recognize that government agencies sometimes must resort to incineration to destroy illegal drugs and items that are prohibited in all or portions of the U.S. due to biosecurity reasons. As an example, produce seized by customs agents at points of entry into the United States may be infected by pathogens or pests that could severely threaten the domestic agriculture industry. Our intent is not to hinder or deter government agencies from destroying these materials, as alternative disposal options do not exist and their destruction is necessary to maintain public health and safety. Accordingly, EPA considers that regulation imposed on contraband or prohibited goods incineration units which are owned or operated by government agencies would hinder the disposal of these items and this impact would outweigh any benefits possible from regulation of the units. To make sure the intent of this exclusion is clear, we have reworded it to apply only to incinerators "owned or operated" (rather than "used," as proposed) by government agencies that incinerate only contraband or prohibited goods confiscated by a government agency.

Comment: One commenter (OAR-2003-0156-0076) pointed out that 40 CFR 60.2887 provides an exemption for "prohibited goods" and that the Department of Agriculture's definition of food service waste from international flights is also "prohibited goods." The commenter contended that exclusion of food service waste from international flights from regulation does not seem appropriate and recommended that the final rule clarify that burning of "prohibited goods" by airport management (rather than U.S. Customs) is not excluded.

Response: We want to reiterate that our intent is to provide the exclusion only for government agencies that have confiscated and need to incinerate illegal drugs or prohibited goods such as contaminated produce. The exclusion does not apply to items confiscated and incinerated by private, industrial, or commercial entities. In providing this exclusion, EPA does not want to override other governmental agencies' authority to define "prohibited goods" in a way that is suitable for their jurisdiction. Diverse agencies such as police, U.S. customs, U.S. Department of Agriculture, State agricultural agencies, Coast Guard, etc., may need to incinerate such goods to prevent spread of pathogens and permanently destroy banned substances. Other disposal options may not be practical or may not permanently destroy the items. We realize that we can't formulate a uniform definition of "prohibited goods" that would adequately address the specific situations faced by all Federal, State, and local agencies across the nation. If a State or local government authority deems certain materials to be "prohibited goods" requiring destruction, then we do not want to hurt or hinder their authority. While the final OSWI rules allow an exclusion for a government owned or operated incinerator at an airport to burn prohibited goods, a State or local authority is free to regulate such an incineration unit burning food waste from international flights if they choose.

3.14 CO-FIRED UNITS AND MUNICIPAL OR INSTITUTIONAL WASTE FIRED WITH OTHER MATERIALS

Comment: One commenter (OAR-2003-0156-0057) requested that EPA clarify the co-fired combustor and/or the pathological waste incinerator exemption in 40 CFR 60.2993. The commenter described a situation where an incineration unit could initially seek an exemption as a

pathological waste incinerator (i.e., combusts 90 percent pathological waste and 10 percent other fuel, possibly MSW). Then, at a later time, the unit could increase their MSW feed content to 30 percent by weight and switch to the co-fired combustor exemption.

Response: To meet the pathological waste exclusion under the proposed and final OSWI rules, the unit must burn 90 percent or more by weight (on a calendar quarter basis and excluding the weight of auxiliary fuel and combustion air) pathological waste, low-level radioactive waste and/or chemotherapeutic waste, and must notify the Administrator that the unit meets these criteria. The pathological waste exclusion, and the other exclusions in 40 CFR 60.2887 of subpart EEEE and 40 CFR 60.2993 of subpart FFFF, apply only as long as the unit meets the criteria in the exclusion. If a unit that previously qualified for the pathological waste exclusion changes its waste mix such that it is no longer burning at least 90 percent pathological waste, low-level radioactive waste and/or chemotherapeutic waste, then it must either comply with the final OSWI rules or meet the criteria for another exclusion. Furthermore, if the unit stops burning 90 percent pathological waste, low-level radioactive waste and/or chemotherapeutic waste and is burning hospital, medical or infectious waste as defined in the HMIWI rules, it may become subject to the HMIWI rules rather than the OSWI rules. Note that, under the proposed and final OSWI rules, the co-fired combustor exclusion is only available for units that would otherwise be VSMWC units. This is because CAA section 129 excludes co-fired combustors in its definition of municipal waste. To qualify for the co-fired combustor exclusion, the owner or operator of a unit that would otherwise be a VSMWC must meet the notification and recordkeeping criteria in 40 CFR 60.2887(b)(1) through (5) of subpart EEEE and 40 CFR 60.2993(b)(1) through (5) of subpart FFFF.

Comment: One commenter (OAR-2003-0156-0070) contended that "co-fired combustors" combust solid waste and, therefore, must be regulated under CAA section 129. The commenter noted that these combust up to 30 percent of their fuel input as solid waste. The commenter argued that any unit that combusts any solid waste, regardless of the percentage of fuel makeup, is a solid waste incineration unit and must be regulated under CAA section 129.

Response: Section 129(g)(5) of the CAA states that "... an incineration unit shall not be considered to be combusting municipal waste for purposes of section 111 and this section if it combusts a fuel feed stream, 30 percent or less of the weight of which is comprised, in aggregate, of municipal waste." To meet this statutory requirement, the final OSWI rules exclude co-fired

combustors from being regulated as VSMWC units. Co-fired combustors that are not regulated as VSMWC units may be regulated under other authorities. For example, cement kilns and boilers that are burning less than 30 percent municipal waste are regulated under CAA section 112. As explained in previous responses, CAA section 129 does not obligate EPA to regulate every combustion unit burning solid waste. In addition, EPA has the discretion to determine which units should be regulated as OSWI units.

3.15 SLUDGE INCINERATORS

Comment: Two commenters (OAR-2003-0156-0050, 0077) were unsure how sludge incinerators are treated by the proposed OSWI rules. Both commenters requested that EPA clarify if, and how, commercial and municipal sludge incinerators are addressed by the OSWI standards. One commenter (OAR-2003-0156-0050) raised the following issues and questions:

1. Sludge is clearly included in the definition of solid waste, but sludge seems to not be included under the definition of municipal solid waste.
2. Sludge incinerators seem to be considered as an institutional waste incineration unit, but the applicability section addresses only institutional waste at institutional facilities. The commenter suggested that, possibly, municipal sludge incinerators are regulated as institutional waste incineration units at institutional facilities, even though the preamble does not mention this type of situation. The commenter stated that determining applicability in this scenario is unclear.
3. The commenter noted that perhaps industrial sludge incinerators are covered under the boiler MACT if there is heat recovery.

The other commenter (OAR-2003-0156-0077) pointed out that wastewater treatment plant sludge is excluded from disposal in municipal solid waste landfills in Missouri. The commenter is concerned that a facility may find that trying to comply with both the current solid waste rules and the proposed OSWI rules place them in economic jeopardy.

Another commenter (OAR-2003-0156-0070) contended that sewage sludge incinerators combust solid waste and must be regulated under CAA section 129. The commenter stated that EPA acknowledged that these units combust solid waste in 62 FR 1868-1869 (January 14, 1997), but has not regulated sewage sludge incinerators in its prior rules for MWC, HMIWI or CISWI.

Therefore, the commenter noted, EPA must now establish standards for these units in the OSWI rule.

Response: Sewage sludge incinerators (SSI) are a source category that is being addressed under CAA section 112. As early as April 2000, EPA indicated that it no longer intended to regulate SSI under Section 129 of the CAA:

> The Agency has decided not to regulate sewage sludge incinerators as a category under Section 129 of the Clean Air Act. . . . The Agency believes that sewage sludge generated by publicly-owned treatment works (POTWs) and combusted in SSIs is "solid waste." However, this sludge is from a municipal source, and not from "commercial or industrial establishments or the general public." Therefore, SSIs that combust this sludge are not "solid waste incineration units" and section 129 does not apply to them. Virtually all of the SSIs that would be candidates for regulation combust sludge from POTWs, and thus are not covered under Section 129.

(Unified Agenda, 65 FR 23459-01 (April 24, 2000).) In addition, EPA's intent to regulate these sources under CAA section 112 was made clear when SSI were included as an additional area source category listed pursuant to CAA sections 112(c)(3) and 112(k)(3)(B)(ii) in the June 26, 2002 *Federal Register* (67 FR 43113). As discussed fully in section 3.1 of this document, source categories regulated by CAA section 112 may not also be subject to a CAA section 129 regulation. In previous regulatory activities, EPA was unable to identify any SSI that were major sources. (See 67 FR 6521, February 12, 2002.) Therefore, the entire SSI source category consists of area sources, and will be addressed by the CAA sections 112(c) and 112(k) regulations. Sewage sludge incinerators do not meet the definitions of IWI or VSMWC units in the final OSWI rules and, thus, are not regulated as OSWI units.

3.16 NATIONAL SECURITY INCINERATION UNITS

In the preamble to the proposed rules, we requested comment on whether a subclass of IWI units that burn national security documents should be excluded from the final OSWI rules.

Comment: Three commenters (OAR-2003-0156-0075, 0070, 0066) opposed excluding incinerators that burn national security documents from regulation and contended that EPA did not explain or justify the reason to exclude these units. One commenter (OAR-2003-0156-0070)

argued that incinerators that burn national security documents are combusting solid waste and, as a result, must be regulated under CAA section 129 emission standards. Another commenter (OAR-2003-0156-0066) believes that document disposal by the agencies in question constitutes a regular part of their normal business operations and should fall within the scope of the proposed rule.

Response: We have determined that any IWI units used solely during military training field exercises to destroy national security materials integral to the field exercises are not subject to the final OSWI rules. We have determined that an outright exclusion for other IWI units used to destroy national security materials will not be provided in the final OSWI rules. However, the final rules will contain provisions such that individual sources may apply for this type of exclusion as necessary. We understand that mechanical destruction or other alternatives to incineration are available for most, if not all, categories of national security materials. Thus, we think that, as a general matter, few incineration units will meet this exclusion on a long-term basis. Nonetheless, this exclusion is needed for two reasons. First, the government could change the acceptable means of disposing of one or more types of national security materials in the future. Second, there may be unexpected circumstances when mechanical or other alternative means of destruction are temporarily unavailable, requiring the use of backup incineration units during those periods. To be granted an exclusion, a source/governmental entity must demonstrate that the unit is used solely to incinerate national security materials and that a reliable alternative to ensure acceptable destruction of national security materials is unavailable, on either a permanent or temporary basis. An "acceptable" level of destruction is one that meets applicable regulations, guidelines, or instructions for the destruction of national security materials. For existing units, the request for an exclusion must be submitted to the Administrator prior to 1 year before the final compliance date, and the Administrator will either grant or deny the request for exclusion. For new units, the request must be submitted to and approved by the Administrator prior to initial startup. 40 CFR 60.2993(q) of subpart FFFF contains the provisions for applying for this exclusion for existing units, and 40 CFR 60.2887(q) of subpart EEEE contains the similar provisions for new units.

Comment: One commenter (OAR-2003-0156-0053) expressed concern that there could be situations in which the only viable alternative for the destruction of classified materials would be the use of an OSWI unit. The commenter recommended that the rules include an additional

"national security emergencies" category in the temporary use exemption provided in 40 CFR 60.2969 and 40 CFR 60.3061. The recommended category would cover the use of OSWI units used for the destruction of classified materials when no other reliable alternative is available to ensure adequate destruction of classified information. Also, the commenter recommended that 40 CFR 60.2887 and 40 CFR 60.2983 of the proposed rules provide an exemption for OSWI units used during military readiness training activities, where use of such units is required as part of realistic training in how to dispose of classified documents in a field situation.

Response: We are not providing an outright exclusion for "national security emergencies" as the commenter suggests. However, as we have discussed in the previous response, we have determined that any IWI units used solely during military training field exercises to destroy national security materials integral to the field exercises are not subject to the final OSWI rules and that the final rules will contain provisions such that other IWI units used to destroy national security materials may apply for this type of exclusion. The commenter explained that a limited number of Department of Defense installations use incineration units either routinely or occasionally to destroy classified materials, that some of the units are used only to destroy classified materials, and that incineration is an effective method to safeguard national security by destroying classified material in a reliable way that minimizes handling and transportation of such material outside of a secured environment. The commenter mentions that problems with disposal of classified materials "... become more critical during breakdowns of primary equipment (e.g., shredders) or during a national emergency when incineration on site is the only viable alternative for the adequate destruction of classified materials." One of the requirements for applying for the national security materials incinerator exclusion is the demonstration that a reliable alternative to ensure acceptable destruction of national security materials is unavailable on either a permanent or temporary basis. Therefore, we believe that the exclusion we are providing addresses the incineration of classified materials during "national security emergencies" which the commenter details.

Comment: One commenter (OAR-2003-0156-0079) requested EPA provide an exclusion in the final OSWI rules for units used for sanitization of classified or otherwise sensitive materials by the U.S. Armed Forces, the Department of Energy, and other similar agencies. The commenter contended that such an exclusion is necessary to avoid hindering or deterring the use of incinerators by government agencies if such use is necessary to protect national security. The

commenter pointed out that the current language of the proposed rule does not take into account those incinerators that do not burn waste, but only burn materials that must be sanitized under the Atomic Energy Act because they contain classified or otherwise controlled information. The commenter contended that not taking this category of non-waste material into account is contrary to 40 CFR, Part 260.10 (Military Munitions) and the RCRA Munitions Rule. The RCRA Munitions Rule contains extensive discussions of why materials that require sanitization were excluded from the definition of solid waste. The commenter believes these considerations must extend to the proposed OSWI rules as well. The commenter argues that the same line of reasoning in the RCRA Munitions Rule can be applied to the OSWI proposed rules, namely, that until the information that has caused a material to be classified or otherwise controlled is removed, the material is not a solid waste. Combustion is often the only method available to sanitize a material.

The commenter stated that failure to exclude the units imposes an unnecessary burden on their site that will ultimately be passed on to the government. These units are small and few in number, so the cost of compliance would take money from the defense work without appreciably improving environmental protection. Finally, the commenter pointed out that exclusion from the proposed rule would not alter the State or local requirements such units meet, so they would continue to be regulated air emission sources.

Response: As discussed in the prior responses in this section, we have determined that any IWI units used solely during military training field exercises to destroy national security materials integral to the field exercises are not subject to the final OSWI rules. We have determined that an outright exclusion for other IWI units used to destroy national security materials will not be provided in the final OSWI rules. However, the final rules will contain provisions such that individual sources may apply for this type of exclusion if the IWI unit is used only for the destruction of national security materials and a reliable alternative to ensure acceptable destruction of national security materials is unavailable on either a permanent or temporary basis.

3.17 ADDITIONAL POSSIBLE SUBCATEGORIES OF OSWI UNITS

In the preamble to the proposed rules, we requested comment on whether other subclasses of OSWI units existed and if any special and/or extenuating circumstances existed that warranted

their exclusion from regulation under OSWI. Although we did not receive any public comments, we did receive one communication related to this request.

Comment: The U.S. Coast Guard (USCG) informed EPA that they were concerned that the rules, as proposed, could be interpreted to include incinerators located on ships. According to the USCG, some of its largest cutter classes have small shipboard solid waste incinerators that are used to dispose of solid waste generated aboard ship while the ship is at sea. The USCG indicated that they believed these incinerators should not be subject to the final OSWI rules.

Response: It was never EPA's intent to regulate incinerators aboard USCG patrol ships or other ships, and EPA's analyses supporting the OSWI rules have not included information about shipboard incinerators. Thus, EPA has defined "institutional facility," which replaced the definition of "institution" to be consistent with terminology used elsewhere in the final OSWI rules, to apply to land-based incinerators.

We note that the use of wet scrubbers on ships raises the questions of whether it is even technically feasible to locate wet scrubbers on ships(including the availability of fresh water for the scrubber systems),and moreover begs the question of how the ships would then dispose of the wastewater generated by the scrubbers. If a shipboard incinerator could not meet the standard, the incinerator would have to shut down. Yet, many ships have onboard incinerators to dispose of the solid waste generated on these ships while at sea (e.g., patrolling U.S. borders), without having to come into port or otherwise change their route in order to dispose of the solid waste using an alternative means.[2]

Chapter 4
Definitions

Comment: Two commenters (OAR-2003-0156-0052, 0075) suggested that the definitions of "clean lumber" and "wood waste" found in 40 CFR 60.2977 and 40 CFR 60.3078 should explicitly exclude manufactured wood products containing adhesives. Examples of such products include plywood, particle board, flake board, and oriented-strand board (OSB). One

[2] In order to effectively police U.S. borders, help secure national security and carry-out research activities, many of these ships must have the maximum flexibility to stay at sea as long as is necessary to accomplish their mission, with a minimum of disruption, such as having to come into port to dispose of solid waste.

commenter (OAR-2003-0156-0052) noted that there is a wide variety of adhesives and resins that may be used in the manufacture of these products, and that many of these materials produce toxic emissions when burned. The commenter considers these materials to be "treated" wood products and therefore believes they should not be allowed to be burned in air curtain incinerators operated under provisions of solid waste incineration regulations (such as MWC or CISWI), which specify limited requirements for air curtain incinerators burning only wood waste, clean lumber, and yard waste. The commenter noted that questions regarding whether manufactured wood products are considered "clean lumber" or "wood waste" continue to arise, and recommended that EPA improve the final rules by specifically excluding these adhesive-treated wood products from the definitions of "clean wood" and "wood waste."

Response: These definitions are important in the final OSWI rules because there are reduced requirements for air curtain incinerators that burn only clean lumber or wood waste. We agree with the commenter, and our intent was to exclude wood products manufactured with adhesives and resins from the definitions of "clean lumber" and "wood waste." The proposed definition of "clean lumber" excluded wood that has been painted, stained or pressure treated; and the proposed definition of "wood waste" limited wood waste to "untreated" wood and wood products, but did not specify the meaning of "untreated." Adhesives, like paints, can contain hazardous pollutants and we did not intend for air curtain incinerators burning these materials to qualify for the reduced requirements. To clarify our intent, we have expanded the second sentence in the definition of clean lumber to state, "Clean lumber does not include wood products that have been painted, pigment-stained, or pressure-treated by compounds such as chromate copper arsenate, pentachlorophenol, and creosote, *or manufactured wood products that contain adhesives or resins (e.g., plywood, particle board, flake board, and oriented strand board)*." We have also revised the definition of "wood waste" by adding a fourth item to the list of items that wood waste does not include: "*(4) Treated wood and treated wood products, including wood products that have been painted, pigment-stained, or pressure treated by compounds such as chromate copper arsenate, pentachlorophenol, and creosote, or manufactured wood products that contain adhesives or resins (e.g., plywood, particle board, flake board, and oriented strand board).*"

Comment: One commenter (OAR-2003-0156-0052) suggested that there is an incorrect cross reference in the definition of "municipal waste combustion unit" in 40 CFR 60.2977. The

commenter noted that at the end of the definition is the phrase, "...and air curtain incinerators (except those air curtain incinerators listed in 40 CFR 60.2887(a))." The commenter noted that the referenced section refers to cement kilns instead of air curtains, and suggested that the reference be changed to 40 CFR 60.2888(b) instead.

Response: We thank the commenter for pointing out this cross-referencing error and have corrected it in the final OSWI NSPS.

Comment: One commenter (OAR-2003-0156-0057) asked if, in the absence of updated cartographic boundary files (CBF), the latest 1999 CBF based on 1990 Census data and revised definitions of MSA as of 1999 would be sufficient to define rural areas. As the commenter noted, a rural IWI is defined as a unit located more than 50 miles from the boundary of the nearest MSA, and that the definition of MSA was last revised in June 2003. However, the commenter stated that CBF for 2003, based on 2000 Census data, are not currently available. These files are necessary to identify rural IWI based on MSA as defined in Illinois, Indiana, Iowa, Kentucky, and Missouri.

Response: The OMB maintains definitions of MSA. The final rules will cite the most recent OMB bulletin defining MSA as the basis for determining if an IWI is located within 50 miles of the boundary of the nearest MSA. This definition was revised on February 22, 2005 and is contained in OMB Bulletin No. 05-02, "Update of Statistical Area Definitions and Guidance on Their Uses" and is available on the Web at http://www.whitehouse.gov/OMB/bulletins/. To the extent that other data, such as CBF, are needed to determine MSA boundaries, the most recent available information should be used.

Comment: One commenter (OAR-2003-0156-0065) noted that the definition of MSW in the proposed OSWI regulations is not the same definition used in previous CAA section 129 regulations (i.e., MWC regulations found in 40 CFR part 60, subparts Ea, Eb, AAAA, and BBBB). The commenter also noted that the regulations for CISWI units refer to MSW as defined in the MWC regulations. The commenter understands that EPA is using language from CAA section 129(g)(5) for the definition of MSW, but believes that EPA should continue to use the definition used in the emission guidelines and NSPS for small and large MWC and CISWI units. The commenter stated that this is important to insure that all incineration units are covered by one of the CAA section 129 solid waste subcategories.

The commenter disagreed with the proposal's use of "collected from" in the definition of MSW and the statement that small incinerators that are located at commercial businesses or industrial sites that burn non-manufacturing wastes are not MWC units. The commenter noted that this would seem to say that an incinerator located at an apartment complex could not be an MWC because it is generating waste from an on-site residential source as opposed to collected from. As for retail stores or units located at industrial sites burning office paper, the commenter notes that these are not covered by the CISWI rules, since CISWI exempts units burning greater than 30 percent MSW. The commenter contended that this would leave a very important type of incinerator unregulated, noting especially incinerators located at grocery stores.

Response: We are retaining the proposed definition of "municipal solid waste" in the final OSWI rules to be consistent with CAA section 129, which defines "municipal waste" as "refuse (and refuse derived fuel) collected from the general public and from residential, commercial, institutional, and industrial sources consisting of paper, wood, yard wastes, food wastes, plastics, leather, rubber and other combustible materials and non-combustible materials such as metal, glass and rock...." To be a VSMWC unit that is subject to the final OSWI rules, a unit must combust waste that is "collected from" multiple establishments. Under this definition, incinerators owned/operated by commercial businesses, such as grocery stores or apartments, that burn waste generated on site rather than collected from multiples establishments are not considered VSMWC units and are not covered by the final OSWI rules.

As the commenter points out, the final CISWI rules (40 CFR 60 subparts CCCC and DDDD) currently exclude units burning MSW as defined in the large and small MWC rules (40 CFR 60 subparts Ea, Eb, AAAA, and BBBB). These other rules do not include the "collected from" language in their definitions of MSW. Therefore, the final CISWI rules currently exclude some industrial and commercial units that burn wastes such as paper, cardboard, and food wastes that are generated on site but are not associated with the manufacturing process. The commenter is concerned that such units will not be subject to any CAA section 129 rules. As stated in the preamble to the proposed OSWI rules (69 FR 71480, December 9, 2004), under the CAA section 129 definition of "municipal waste," small incinerators that are located at commercial businesses (such as stores, restaurants and apartments) or industrial sites are not VSMWC units because they do not burn waste which has been "collected from." Such units are properly addressed under the

final CISWI rules, because of their location at commercial and industrial sites. EPA intends to address regulation of such combustion units under future revisions to the final CISWI rules.

Comment: One commenter (OAR-2003-0156-0065) noted that the proposed definition of MSW in 40 CFR 60.3078 includes wood waste and yard waste. The definition of wood waste excludes clean lumber. Therefore, the commenter contended that it is confusing to see specific opacity requirements for air curtains burning 100 percent wood waste, 100 percent clean lumber, 100 percent yard waste, or a mixture of wood waste/clean lumber/yard waste. The commenter recommended that, since clean lumber is not considered municipal solid waste, it should be removed from the description of air curtains subject to opacity requirements.

Response: The commenter misquotes the proposed definition of "municipal solid waste" in 40 CFR 60.3078 of subpart FFFF. The definition of MSW in CAA section 129 and in the proposed and final OSWI rules includes "...paper, wood, yard wastes, food wastes,... ." Note that the wording is "wood" rather than "wood waste." The term "wood" encompasses both clean lumber and wood waste. Section 129(g)(1) of the CAA specifies that air curtain incinerators that "only burn wood wastes, yard wastes, and clean lumber" must be subject to opacity limits. Therefore, the final OSWI rules include opacity limits for IWI or VSMWC units that are air curtain incinerators burning only clean lumber, wood waste, and/or yard waste.

Comment: One commenter (OAR-2003-0156-0065) asked whether the term "trench burner" is meant to include both open pit and trench burner units, since the definition proposed states that, "For the purpose of this subpart and subpart EEEE only, air curtain incinerators include both fire box and trench burner units."

Response: Yes, the term trench burner includes units where combustion occurs in either an open pit or a trench as long as the unit is forcefully projecting a curtain of air across the pit or trench. If waste in an open pit or trench is simply set on fire with no unit to provide forced air, then this would be open burning and would not be an air curtain incinerator. The definition of air curtain incinerator in the final OSWI rules is "an incineration unit operating by forcefully projecting a curtain of air across an open, integrated combustion chamber (fire box) or open pit or trench (trench burner) in which combustion occurs... ."

Chapter 5
MACT Floors, Control Technology And Emission Limits

Comment: One commenter (OAR-2003-0156-0070) stated that EPA must base floors on emission levels achieved by the best controlled unit, not on the technology that the unit uses or emission levels that EPA deems achievable with such technology, and contended that EPA did not consider the effect of waste composition on a unit's performance when setting the MACT floor for new units. The commenter added that EPA did not gather information on any OSWI's performance, but instead assumed that the floor is represented by the performance of a medium efficiency wet scrubber and set the floor at the "average emission rate for all wet scrubbers on medical waste incineration units." The commenter argues that because EPA has not demonstrated that medical waste is comparable to the waste combusted in a VSMWC or IWI unit, EPA has not supported the assumption that the average performance of a medical waste incinerator equipped with a wet scrubber is representative of the actual performance of the best performing VSMWC or IWI unit.

Response: In the preamble to the proposed rules, we noted that EPA does not have emissions test data for the OSWI units in the OSWI inventory. Therefore, we were unable to determine the best controlled OSWI unit based on OSWI emission levels. However, our OSWI inventory indicated that only one OSWI unit contained an add-on control device. This control device is identified as a "medium efficiency wet scrubber." EPA utilized information on control devices to help categorize the category of similar units whose actual emissions data would then be used to set the floor (i.e., the best performing similar unit, or an incinerator equipped with a medium efficiency wet scrubber in this case). As we discussed in the preamble to the proposed rules, we do have emissions test data for HMIWI units, which are similar to OSWI units. Our emissions data for HMIWI indicates whether the unit is equipped with a wet scrubber, but does not indicate the efficiency (e.g., low, medium, or high) for which that the scrubber is designed. Therefore, to develop emission limits that are representative of what a medium efficiency wet scrubber can achieve, we averaged all emissions data for HMIWI units equipped with wet scrubbers. In using this approach, we have also accounted for the variability of emissions testing for waste combustion units. Any single emission test is merely a "snapshot" of the emission level from the unit. The same unit tested a month later may have a lower or higher emission rate. Thus,

selecting the best single emission test (the lowest "snapshot") does not reflect the emission limit that is continuously achieved over time. Taking the average of emission tests from multiple units of similar design with wet scrubbers accounts for the inherent variability of the data. By taking the average of all performance data, we have considered data from wet scrubber-equipped units that are both better than, and worse than, the proposed emission limits, but should nonetheless be continuously achieved by a unit equipped with a medium efficiency wet scrubber. For perspective, we also note that this floor analysis approach results in limits for most pollutants that are more stringent than the limits for HMIWI units and large and small MWC units.

Although the data we used to develop the emission limits are from HMIWI units, the commenter does not contend that HMIWI and OSWI units are not similar in size, design, or operation. While the commenter argues that medical waste may not be comparable to MSW or institutional waste, they do not provide any data to support their concern or to demonstrate that emissions from OSWI units are lower than emissions from HMIWI units with the same control technology. To address these concerns, we have further considered the compositions of medical waste and MSW. Both types of waste contain a range of materials including paper, plastics, metal, glass, food waste, and other materials. However, within both categories there can be a wide variety of composition depending on the specific sources that generated the waste, geographic location, and any separation practices used prior to combustion. Given the variability within each waste type, we cannot conclude that incinerating one or the other would result in higher emissions. We find the wastes to be generally similar in composition based on the general types of materials contained in the waste and the very limited data available on the proportions of paper, plastic, metals, and other materials contained in the waste. Considering the similarities in combustion unit size, design, operations, and waste composition, we have determined that the emission levels actually achieved by HMIWI units equipped with wet scrubbers are an appropriate basis for setting the MACT floor for new OSWI units. Therefore, in the absence of emissions data on OSWI units, we have determined that HMIWI units are a similar source and we plan to continue to use the emission limits based on the HMIWI data as proposed, with the exception of revisions to the CO and HCl emission limits that were necessary to address other comments (discussed later in this section).

Comment: One commenter (OAR-2003-0156-0070) stated that floors for existing units do not reflect the average emission level achieved by the best performing 12 percent of units in

each category or subcategory. The commenter contended that court decisions have made it evident that EPA cannot use control technology as an estimate of the best units' emission levels in situations where emission levels are affected by factors other than the performance of the control technology. The commenter argued that EPA's MACT floor approach for existing units ignored the effect of waste input on emissions performance. As an example, the commenter specifically points out that the lead floor level of 4,300 μg/dry standard cubic meter (dscm) would be worse than the actual performance of an OSWI unit burning waste that did not contain lead, and that EPA has not provided any reason to believe that these units would burn any waste containing that level of lead.

Response: As previously stated, EPA does not have data on actual emissions from OSWI units, thus we had to use emissions data from similar, existing units. EPA utilized information on control devices used at the best performing 12 percent of existing OSWI not to set the floor number itself (as the commenter suggests), but to help characterize the category of similar units whose actual emissions data would then be used to set the floor – small, uncontrolled, modular/starved air MWC units.

With regard to the commenter's contention that, in determining the floor, EPA did not consider the effect of waste input on emissions performance, OSWI units combust diverse and heterogeneous mixtures of wastes. For example, VSMWC units burn MSW that contains metals including lead in varying amounts, and materials separation techniques cannot achieve complete removal of lead or other compounds. In setting emission limits for large and small MWC units under CAA sections 129 and 111, EPA examined materials separation techniques and proposed materials separation requirements, but ultimately decided not to require materials separation prior to combustion. We stated that "the variable and heterogeneous nature of municipal solid waste makes quantification of such emission reductions associated with removal of various materials technically infeasible" (56 FR 5496, February 11, 1991). Subsequent revisions of the section 129 large and small MWC rules in 1995, 1997, and 2000 also did not require materials separation or use it as the basis for determining the MACT floors. The same waste variability and materials separation considerations and constraints that applied in development of the final large and small MWC rules also apply to the final OSWI rules.

We acknowledge that there are limited emissions data available for the floor level of control (i.e., uncontrolled two-chamber incineration units), but also point out that we have gone

beyond the floor in the selection of emission limits based upon the use of a wet scrubber. From a practical standpoint, any potential change in the floor emission levels would not have any effect on the final emission limits selected. Therefore, we do not see a need to re-evaluate the floor emission levels used in our prior analysis because it would most likely not lead us to establish different MACT limits.

Comment: Two commenters (OAR-2003-0156-0053, 0062) considered the CO emission limit of 5 parts per million (ppm) (at 7 percent O_2) to be unrealistically low. One commenter (OAR-2003-0156-0053) stated that they had emission test data indicating that 15 ppm was achievable for waste paper burning incinerators. The commenter pointed out that the CO emission limits for similar units, such as CISWI units and HMIWI units are 157 ppm and 40 ppm, respectively. The commenter recommended that EPA consider setting the CO limit for existing sources at the MACT floor. Another commenter (OAR-2003-0156-0062) contended that a medium efficiency wet scrubber cannot reduce CO to 5 ppm, as CO is not water soluble and water will not affect the concentration.

Response: We agree with the commenter's assertions that a wet scrubber is not an effective control device for CO emissions. As discussed in the preamble to the proposed rules, HMIWI units are similar in size, design, operation and burned waste composition to OSWI units. Therefore, we used emissions test data for wet scrubber-equipped HMIWI to develop the proposed emission limits for new and existing OSWI units. As one commenter observed, the CO emission limit for HMIWI is 40 ppmv. The HMIWI emission limit was based on data from CO continuous emission monitoring systems (CEMS), and was determined to be the emission limit continuously achieved on a 12-hour rolling average basis. However, when we developed the proposed OSWI emission limits, we used performance test data from HMIWI units instead of CEMS data to develop CO and other pollutant emission limits. Although this approach for CO was simple and consistent with the other pollutants, it was not adequate to address the large quantity of data, including its variability, which was considered when the HMIWI CO emission limit was developed. Because CO is the only pollutant for which the final OSWI rules require CEMS for existing and new units, we are revising the emission limit to better account for the large volume of data generated by the CEMS and the amount of inherent variability that occurs when generating continuous data. The new CO limit is 40 ppmv over a 12-hour rolling average. This limit is consistent with a previously promulgated HMIWI emission limit for a source

category similar to OSWI, and is also the lowest CO emission limit of any of the CAA section 129 rules.

Comment: One commenter (OAR-2003-0156-0054) questioned the mathematics used to determine the MACT floor. The commenter pointed out that EPA has used the 94th percentile unit ranked from most to least emitting unit to determine the baseline MACT for HAP. The commenter stated the current proposed rule chose the 88th percentile and requested justification for the change. The commenter requested further analysis to determine if the 94th percentile unit uses different control technology than the 88th percentile unit to achieve emission reductions.

Response: We disagree with the commenter's assertion that the proposed rule chose the 88th percentile unit in selecting the MACT floor for existing units. As stated in the preamble, the MACT floor for existing units is the average emissions limitation achieved by the best performing 12 percent of units. Therefore, for existing VSMWC units, 12 percent of 14 units is two units. The average of the best-performing two units is based on the emission limits "achieved" by a well-operated, uncontrolled (i.e., afterburner), two-chamber incinerator because this is the design of the best two units. Likewise, for IWI, 12 percent of 358 units is 43 units. The average of the best 43 units is represented by the median of these units (which is the same as the 94th percentile unit suggested by the commenter). In this case, only one IWI unit has an add-on control device while the other 42 are uncontrolled (i.e., afterburner), two-chamber units. Therefore, the median of the best-performing 12 percent of units (i.e., the 94th percentile unit) is a well-operated, uncontrolled (i.e., afterburner), two-chamber incinerator. As we also point out in the preamble, we have elected to go beyond the MACT floor and have established emission limits that are based on the use of a wet scrubber. These emission limits are significantly more stringent than the MACT floors for both subcategories of OSWI. As a result, the MACT floors for existing OSWI units, while determined per the methods prescribed by CAA section 129, do not affect the emission limits in the final OSWI rules.

Comment: One commenter (OAR-2003-0156-0062) believes the proposed HCl standard is unachievable and should be revised to no lower than 20 ppm, since EPA Method 26A generally is not adequate for demonstrating compliance with an HCl standard below 20 ppm at sources with wet scrubbers. The commenter requested that EPA review the comments previously submitted by the commenter for the Proposed Standards for Hazardous Air Pollutants for Hazardous Waste Combustors (Docket No. OAR-2004-0022).

Response: We have considered the commenter's assertion that EPA Method 26A is not adequate for demonstrating compliance with an HCl standard below 20 ppm when sampling sources with wet scrubbers. Although it is not evident that there is an outright problem, we now have a more mature understanding of applicability of Method 26A in certain environments. Therefore, we acknowledge that a tester may need to take certain precautions to ensure that there is no bias when sampling streams with HCl concentrations at or below the 3.7 ppmv emission limit as proposed. For example, there is the need to precondition the filter with stack gas because the filter may absorb, adsorb, or react with some of the HCl in the stack gas resulting in a number biased low. Water droplets may also affect the results of the test. Additional procedures may be required to eliminate any droplets within the sampling train. As we discussed in the preamble to the proposed rules and previously in this document, HMIWI units are similar in size, design, operation, and burned waste composition to OSWI units. Since we did not have any emissions information for OSWI units, we used emissions test data from wet scrubber-equipped HMIWI to develop the proposed emission limits for OSWI units. Unfortunately, we do not know if the personnel conducting the HMIWI compliance emission tests that we used to develop the 3.7 ppmv proposed OSWI emission limit took special precautions to prevent a low bias when sampling and testing for HCl. To address this uncertainty in the data and the commenter's concerns, we are amending the HCl emission limits in the final OSWI rules to 15 ppmv. This is the same limit contained in the final HMIWI rules, and HMIWI units equipped with wet scrubbers are demonstrating compliance with a 15 ppmv limit.

We also note that there were no public comments received on testing concerns for the 15 ppmv emission limit in the final HMIWI rules. Although this is higher than the proposed HCl emission limit, it is the lowest HCl emission limit of any CAA section 129 rule and is clearly achievable by wet scrubber-equipped units similar to OSWI units. To ensure that there is no bias in compliance test data, we are including provisions in the final OSWI rules that require sources to condition the filter before testing, and use a cyclone and post test purge if water droplets may be present.

Comment: One commenter (OAR-2003-0156-0062) expressed opposition to the proposed beyond-the-floor standards for existing sources, stating that the standards are technically indefensible based on the MACT selected and are based on the inappropriate assumption that all affected sources will close rather than comply. The commenter requested that

EPA technically explain how a medium efficiency wet scrubber can achieve the evident emission reductions between the floor and beyond-the-floor standards. The commenter also stated that it is impractical to expect a scrubber to achieve reductions of 85 percent for mercury, 92 percent for cadmium, 95 percent for lead or even meet the PM and SO_2 removal stated in the proposed rule.

Response: As discussed earlier in this document and in the preamble to the proposed rules, EPA has determined that options more stringent than the MACT floor are appropriate for existing OSWI units. The MACT floor for existing OSWI units is based on the emission limits achieved by a well-operated, uncontrolled, two chamber unit. Because the MACT floors for existing VSMWC and IWI units are based on units without controls, the emissions reductions that would be achieved by requiring existing VSMWC and IWI units to meet the MACT floor are negligible. In contrast, significant emissions reductions would be achieved by requiring existing units to meet the beyond-the-floor emission limits. As we noted in the preamble to the proposed rules, there is one existing IWI unit equipped with a wet scrubber and this control technology could be applied to both IWI and VSMWC units and would significantly reduce emissions. We disagree that this control technology is indefensible, as an OSWI unit, and units similar to OSWI units, are currently using this technology. Furthermore, our analysis indicates that the cost of meeting emission guidelines based on the MACT floor would be significant, and municipalities and institutional facilities would likely choose to shut down existing VSMWC or IWI units and use alternative, less expensive, waste disposal options in lieu of complying with guidelines solely based on the MACT floor. We do not assume or advocate that all affected sources shut down rather than comply with the emission guidelines, as suggested by the commenter, but we do note that the trend of closure of many units reinforces the findings of our analysis.

We want to point out that the emission guidelines are not based on the percent reduction between the MACT floor and beyond-the-floor emission levels. The floor level of emissions, as discussed in previous comment responses, is uncertain because emissions data on uncontrolled two-chamber units are very limited and somewhat old. We did not calculate the beyond-the-floor-based emission limits by determining what percent reduction (relative to the limited uncontrolled data) a wet scrubber could achieve. Instead, the emission levels for the beyond-the-floor option for OSWI units are calculated from actual performance test data for HMIWI units equipped with wet scrubbers. The emission test data on wet scrubber-controlled HMIWI units (which are similar to OSWI units) are recent and extensive, and are the best basis for determining

the OSWI MACT emission limits. We did not, and still do not, intend for there to be an emissions reduction basis to the rule and, therefore, did not propose emission reduction limits as an alternative to the proposed emission limits.

Comment: One commenter (OAR-2003-0156-0063) stated that control technologies for small rural incinerators are not feasible. The commenter pointed out that the only two technologies able to control emissions to the levels specified in these rules, wet scrubbers and spray dryer/baghouse systems, have questionable reliability in sub-arctic conditions. Furthermore, there are no spray dryer/ baghouse systems manufactured for a unit rated less than 25 tons per day, and the majority of units in rural Alaska are rated less than 5 tons per day. The commenter also expressed concern that emission control systems require a supply of water, which is not guaranteed in rural areas of Alaska due to seasonal limitations and sub-zero temperatures. In some cases, only rivers or streams can supply the amount necessary for emission control units, and drawing water from one of those sources may adversely affect the local ecosystem. Also, the water needs to be discharged, and may lead to the release of spent sorbents. The commenter concluded that the only technology usable with such small incinerators is a wet scrubber. However, the issues of finding a supply of thawed makeup water, and developing a way to release the used water without creating dangerous visibility issues due to ice fog make the use of wet scrubber unlikely to be successful.

Response: We acknowledge that certain areas in Alaska face unique situations such as unavoidable climatic issues involved with the application of wet scrubber technology to OSWI units in rural Alaska. However, we believe that the exclusion provided for OSWI units used at solid waste disposal sites that are classified as Class II or Class III municipal solid waste landfills, as well as the exclusion for rural IWI units (for IWI located more than 50 miles from the boundary of the nearest MSA and where alternative disposal options are not available or are economically infeasible), should adequately address the commenter's concerns. These exclusions are discussed in more detail in Sections 3.11 and 3.9, respectively, of this document.

Comment: One commenter (OAR-2003-0156-0071) expressed concerns with the emission limits for these smaller waste incineration units as compared to previous Federal standards. The commenter recommended the emission limits be consistent with previous waste combustor unit standards for small MWC units and CISWI units as found in 40 CFR part 60, subparts AAAA, BBBB, CCCC, and DDDD. The commenter recommended the following

emission limits: 0.020 mg/dscm for Cd, 0.080 mg/dscm for Hg, 25 ppmvd or 95 percent reduction of HCl, 150 ppmvd for NO_x, 30 ppmvd or 80 percent reduction of SO_2 and 100 ppmvd for CO. The commenter pointed out that the performance standards for these larger MWC units were promulgated on December 6, 2000 and there have not been any substantial improvements in control technologies used on MSW incinerators since that time. However, the proposed emission standards for Cd, Hg, HCl, NO_x, SO_2, and CO are more stringent than what is required for larger units covered by other rules. The commenter believes that OSWI unit emissions differ considerably from HMIWI and that basing the proposed emission standard for SO_2 on HMIWI performance data is inappropriate. The commenter also discussed the occurrence of occasional system spikes of CO due to variable waste streams that can drive the one-hour average emission level above the proposed level.

Response: The commenter recommends using emission limits developed for small MWC units (35 tpd to 250 tpd capacity) for the emission limits for OSWI units. We based the OSWI emission limits on test data for HMIWI units because these units are more similar to OSWI units. Small MWC units are typically waste-to-energy facilities, producing steam for electricity or for sale to a nearby end-user. As such, small MWC units are continuously operated, and are usually located at a facility with more than one unit located on site. In contrast, OSWI units and HMIWI units are mostly small, intermittently operated units that, as far as we can tell, do not produce steam or energy. Furthermore, there is typically only one OSWI unit located at each site. Common designs for small MWC units include mass-burn, waterwall stokers that, in many cases, are constructed on site. VSMWC and IWI units, however, are predominantly small, two-chamber units that are built at the manufacturer's site and delivered to the facility that plans to operate it. Small MWC units are typically controlled by spray dryers and fabric filters, whereas this technology is not readily available for smaller OSWI units, and the only add-on control currently used on an OSWI unit is a wet scrubber. HMIWI units are commonly controlled with wet scrubbers. From this information on unit design, size, operation, and control techniques, it is clear that OSWI units are far more similar to HMIWI units than to small MWC units.

As we discussed in a prior response, we have analyzed available waste data and conclude that medical waste is generally comparable to MSW with respect to the general types of materials burned. Being as such, we expect that, when combusted in similar units, these two wastes would produce similar emissions. Therefore, we think that the emission limits based on the HMIWI

performance data for wet scrubber equipped units, including those for cadmium, mercury, HCl, NO_x, SO_2, and CO are appropriate for the OSWI rules. Furthermore, we note that the CO emission limit is being revised to address variability, which should address the commenter's concerns with the proposed emission limit for this pollutant.

Chapter 6
Title V Operating Permits

Comment: Several commenters (OAR-2003-0156-0052, 0060, 0057, 0071) contended that the requirement for air curtain incinerators burning only wood waste, clean lumber, and yard waste to obtain a title V operating permit is not justified either legally or in terms of environmental outcome and is inconsistent with previously promulgated solid waste combustion regulations. Commenters opined that previously promulgated NSPS and emission guidelines for CISWI and small MWC units do not require title V operating permits for these devices burning only the specified materials. They further suggested that it is inconsistent to include this requirement in the proposed rules, especially because air curtain incinerators subject to the proposed rules will generally be burning smaller amounts of the specified materials than sources subject to previous rules. An example cited was a case wherein the commenter (OAR-2003-0156-0060) thought that the air curtain incinerators regulated under 40 CFR part 60, subparts CCCC and DDDD are only allowed to burn wood waste, clean lumber, and yard waste, and none of those units are required to obtain a title V permit. Another commenter (OAR-2003-0156-0052) agreed that these devices would be required to obtain a title V operating permit if they were major sources as defined elsewhere in the CAA, but objected to permitting requirements for these types of air curtain incinerators that are nonmajor sources.

Response: We disagree with the commenters' conclusions and so noted in our response to similar comments in the final rule for the CISWI Federal plan (68 FR 57518, October 3, 2003). During proposal for the CISWI Federal plan, we clearly stated our interpretation that the CAA requires permitting under title V for sources subject to rules written pursuant to CAA sections 129 and 111. As is the case here, commenters questioned our position on this matter by contending that by not specifically referring to title V requirements in prior rulemakings, we were indirectly expressing our position that title V regulations were not applicable. To the contrary, we knew that 40 CFR part 70 or 40 CFR part 71 title V requirements would apply to any rules written under CAA section 129 or 111 and presumed no additional language was needed in those rules to convey the need to meet the title V requirements. Given prior comments to the effect that such presumptions were misplaced, we responded by first saying that we were specific in the

proposal about the need for title V operating permits for air curtain incinerators subject to the CISWI Federal plan for the purpose of clarifying that need. We did so in order to clearly present EPA's view of such sources' title V obligations, and to answer questions such as those voiced by the prior commenters due to the absence of such specific language in the CISWI emission guidelines and NSPS. Those prior comments are similar to the comments now under discussion. At 68 FR 57527, we stated that EPA has consistently maintained that operating permits are needed for air curtain incinerators subject to NSPS and to State plans drafted pursuant to emission guidelines. However, communications we received following promulgation of the CISWI emission guidelines and NSPS pointed to the advisability of specifically clarifying the matter in the preamble to the CISWI Federal plan and in the final rule itself. Thus, to facilitate the application of title V to these sources, we specifically included in the CISWI Federal plan language describing the need for title V operating permits. To further eliminate any doubt as to the need for OSWI air curtain incinerators to obtain title V operating permits, as is the case for all other classes of air curtain incinerators, we clearly restated that requirement in 40 CFR 60.2994, subpart FFFF, as proposed.

Comment: Two commenters (OAR-2003-0156-0052, 0057) concluded that the term "solid waste incineration unit" is defined in CAA section 129(g)(1) to specifically exclude "air curtain incinerators provided that such incinerators only burn wood wastes, yard wastes and clean lumber and that such air curtain incinerators comply with opacity limitations to be established by the Administrator by rule." As a result, this means that permitting or other requirements applicable to "solid waste incineration units" in CAA section 129 do not apply to such air curtain incinerators in the same way that they do not apply to hazardous waste combustors, materials recovery facilities, and qualifying small power production facilities, all of which also are specifically excluded from the definition of "solid waste incineration unit." In addition to questioning EPA's use of authority under CAA section 129 to require title V operating permits, commenters were cognizant that in the *Federal Register* notice promulgating the CISWI Federal plan that we had also expressed an opinion that section 129 also invokes authority of CAA section 111, thus triggering the provisions of CAA section 502. Section 502 of the CAA requires that sources subject to section 111 must obtain title V operating permits. Commenters expressed a number of opinions about the interplay of CAA section 502 to the purpose of trying to make a

case that the section 502 provision for exempting classes of nonmajor sources should be applied in the case of OSWI air curtain incinerators.

Response: EPA believes that a facility should have a title V operating permit in order to avail itself of the air curtain incinerator exclusion. Absent this exclusion and demonstrated compliance with the opacity limit therein, air curtain incinerators would be "solid waste incineration units" and, therefore, subject to a plethora of requirements under CAA section 129, including the requirement to obtain a title V operating permit. The initial step in effectuating the exemption is for EPA to use available statutory authority to establish applicable opacity limits. In this case, EPA clearly stated in the preamble to the proposed OSWI rules (69 FR 71482, December 9, 2004) that it is relying on the authority of CAA section 129 to establish these limits. Once EPA has established applicable opacity limits, it must have a mechanism for tracking compliance with the limit(s) and with the restrictions on the types of materials the air curtain incinerator unit in question can burn. The mechanism available through section 129 is an operating permit issued in accordance with title V of the CAA. Congress clearly evidenced an intent to require all units subject to requirements established pursuant to CAA section 129 to obtain a title V operating permit in enacting section 129(e) of the CAA, thus it is appropriate for EPA to use such permits to ensure that units which claim to be entitled to the benefit of the provision in section 129(g)(1) are in fact so entitled.

Comment: Numerous comments were received that contended that title V permit requirements for minor sources and air curtain incinerators burning only clean wood and yard waste increase burden to owner/operators and States, may encourage less favorable means of disposal, such as open burning and, as such, EPA should exempt these minor sources from title V requirements. For example, three commenters (OAR-2003-0156-0057, 0065, 0052) expressed concern that title V permitting is an unnecessary burden for air curtain incinerators burning only yard waste and clean wood. One commenter (OAR-2003-0156-0057) further noted that the State of Illinois requires these sources to have a State operating permit. The commenter contended that the complexity and expense of permitting these units would increase ten fold for EPA and the source if title V permits must be issued, and adds that the permits would merely contain opacity and testing requirements.

Two commenters (OAR-2003-0156-0057, 0052) contended that requiring air curtain incinerators burning only clean wood, wood waste and yard waste to obtain a title V permit

would present a disincentive to operators to use air curtain incinerators, and such operators may choose to open burn this material. One commenter (OAR-2003-0156-0057) stated that open burning is allowed under Illinois law in many areas and that such open burning would generate far more particulate matter than the use of air curtain incinerators when burning this material. One commenter (OAR-2003-0156-0057) added that applying for and obtaining title V permits is an administrative barrier for an emission reduction technique compared to open burning. One commenter (OAR-2003-0156-0060) contended that State regulators would prefer the use of air curtain incinerators compared to open burning based on emission reductions. However, identification of air curtain incinerators as "incinerators" makes their use more difficult, since they must obtain a permit for use. The commenter stated that there are many situations where a person can open burn without a permit but, in order to use an air curtain incinerator, must obtain a permit, possibly even a title V permit. Two additional commenters (OAR-2003-0156-0071, 0075) expressed concern that the proposed rule would make the use of air curtain incinerators impractical and encourage open burning for land clearing.

One commenter (OAR-2003-0156-0057) pointed out that, while CAA section 502 requires sources subject to CAA sections 111 and 112 standards to obtain title V permits, it also gives EPA the authority to exempt one or more source categories in whole or in part if it finds that compliance with the permitting requirements is impracticable, infeasible, or unnecessary. Another commenter (OAR-2003-0156-0052) noted that EPA's position appears to be that any nonmajor source subject to a NSPS automatically requires a title V permit, whether or not this requirement is specifically stated in the NSPS. The commenter continued to state that EPA may exempt a source from title V if EPA provides justification. To support an exemption, the commenter provided two arguments. First, the commenter said States with delegated authority for the proposed NSPS could implement and enforce requirements for air curtain incinerators by procedures more appropriate than a title V permit. Second, the commenter said the most likely operators of air curtain incinerators burning vegetative material are rural local governments, especially in areas where removal of vegetative material is necessary to reduce wildfire risk. These governments would find it difficult to bear the added expense of obtaining title V permits.

Finally, one commenter (OAR-2003-0156-0075) contended that requiring air curtain incinerators that are area sources to obtain title V permits is inconsistent with EPA's plan to exempt most area sources of HAP from title V permit requirements. Another commenter (OAR-

2003-0156-0077) believes that only units (not just air curtain incinerators) that are major sources should be required to obtain a title V permit and that requiring title V permitting for all units subject to the proposed rule is overly burdensome.

Response: In addition to disagreeing with the commenters' position that EPA does not have the authority to require the owners/operators of OSWI air curtain incinerators to obtain and comply with title V permits, EPA disagrees with the commenters' assertions regarding the burden associated with obtaining and complying with a title V permit. We do not share their expectation that the submitting and processing of title V operating permit applications need be burdensome upon the parties involved. Moreover, States have considerable discretion to develop general permits which can be issued at a reduced cost compared to standard title V permits. As an example, the State of Florida has developed such a program which provides support to permit applicants and imposes minimal fees upon those applicants. Another remedy to potential concerns raised by the commenters would be for States to exercise their own discretion by strengthening their open burning rules to address State/local issues which might arise.

Although EPA agrees that it might have been able to establish the required opacity limits pursuant to its authority under section 111 alone, it believes that the better approach is the one it selected, i.e., proceeding pursuant to its authority under section 129. Congress established CAA section 129 as the primary mechanism for controlling emissions from solid waste incineration units. The fact that Congress also established an exemption for certain units that would otherwise clearly be solid waste incineration units provided that they meet certain criteria does not change this fact. Further, even if we were to accept the commenters' underlying premise that implementation of air curtain incinerator opacity limits should be pursued primarily through the mechanisms of CAA section 111, we do not agree with their conclusion that OSWI air curtain incinerators should have been exempted from title V operating permit requirements because of the paragraph 502(a) considerations they provided.

Contrary to the opinions of some commenters, there is no language in the CAA suggesting EPA needs to justify requiring title V operating permits for classes of sources on a case-by-case basis. In fact, the opposite is true. Section 502 of the CAA constructs a hurdle for the Administrator to clear before being able to authorize any of a limited number of potential exceptions to the general requirement for stationary sources subject to regulation under the CAA to obtain title V operating permits. While some segment of the total population of OSWI air

curtain incinerators might have qualified as nonmajor sources had EPA proceeded under CAA section 111 rather than CAA section 129, such that EPA could consider providing the exemption from title V permitting authorized by section 502(a) of the CAA, contrary to commenters' presumption, it does not necessarily follow that such units would in fact have been granted the exemption. To grant such an exemption, the Administrator would have needed data to support a finding that title V operating permits would be impracticable, infeasible, or unnecessarily burdensome to owner/operators of OSWI air curtain incinerators. In large part, commenters suggested that OSWI air curtain incinerators should be exempted for the same reasons that we recently gave to support a proposed exemption from title V operating permits for five categories of area sources subject to requirements of CAA section 112(d) (See 70 FR 1520). In that instance, we had obtained a body of information that was interpreted to meet the test imposed by section 502(a) of the CAA and, thus, we were able to propose an exemption. In the current instance, none of the commenters provided factual information that would support such a finding for OSWI air curtain incinerators. Thus, had we been in a position to consider the test in section 502(a), the criteria for exemption would not have been met.

Comment: Two commenters (OAR-2003-0156-0060, 0068) requested that EPA acknowledge a distinction between air curtain incinerators that are "portable" and those that are "stationary." One commenter (OAR-2003-0156-0060) noted that in the States that are using this approach, the "portable" unit is brought to a site and used on waste material generated on that site and a "stationary" unit has waste material brought to the unit from off site. The commenter suggested that "portable" applications should be subject to a simple permitting process that is no more complicated than an open burning permit. The commenter suggested that State regulators have the discretion to determine if "stationary" units require title V permits or not. The other commenter (OAR-2003-0156-0066) asked that EPA clarify its position on whether air curtain incinerators are temporary or stationary sources. The commenter pointed out that air curtain incinerators are used for a short time period, making it a temporary source and therefore not subject to title V.

Response: First, regardless of whether an air curtain incinerator subject to a CAA section 129 standard is transported from site to site or is used at the same site on a continuous basis, it is considered a stationary source under 40 CFR part 70 and 40 CFR part 71 and is required to obtain a title V operating permit. Air curtain incinerators that are transported from site to site are

considered temporary sources as long as their operations are temporary and they are moved at least once during the term of their permits. (See 40 CFR 70.6(e) and 40 CFR 71.6(e).) Temporary-use incinerators (whether they are air curtain incinerators or other types of incinerators) used in disaster recovery and that meet the requirements of 40 CFR 60.2969 or 40 CFR 60.3061 are not, however, required to obtain a title V operating permit. This is because the exclusion-allowing provisions noted above (or a section 111(d) plan developed pursuant to them) do not trigger the requirement to apply for a title V permit. If the requirements in 40 CFR 60.2969 or 40 CFR 60.3061 are met, only temporary-use incinerators that are otherwise subject to title V permitting would be required to apply for and obtain a title V permit.

As to the commenter's concern regarding the process for permitting air curtain incinerators which are temporary sources, a permitting authority may issue a single permit to the owner or operator of these incinerators, thereby authorizing emissions by the same source owner or operator at multiple temporary locations. (See section 504(e) of the CAA and 40 CFR 70.6(e) and 40 CFR 71.6(e).) In order to track the location of temporary sources, the owners or operators of these sources must notify the relevant permitting authority at least 10 days in advance of each change in location. For more information regarding the requirements for temporary sources, see the statutory and regulatory cites noted above.

Comment: One commenter (OAR-2003-0156-0056) explained that the requirement of obtaining a title V operating permit for affected VSMWC units that operate seasonal or temporary portable units in remote Alaskan oil fields would complicate the use of incineration as a waste management option.

Response: The requirements in section 129(e) of the CAA for sources subject to section 129 standards are non-discretionary on EPA's part. However, we do want to point out that the Alaskan units suggested by the commenter may not be subject to the OSWI rules or may qualify for an exclusion. The final OSWI rules provide an exclusion for units used at solid waste disposal sites in Alaska that are classified as Class II or Class III municipal solid waste landfills. Furthermore, the final OSWI rules apply only to IWI and VSMWC units. We have insufficient information about the units operated by these commenters (e.g., operating at an oil field) to determine if they are OSWI units, but they appear to be operated by industrial or commercial entities and would likely not meet the definitions of a VSMWC or IWI unit in the final OSWI rules.

Comment: One commenter (OAR-2003-0156-0077) found 40 CFR 60.3069 and 40 CFR 60.3062(b) confusing because one exempts air curtain incinerators from other requirements, but the other states that air curtain incinerators are required to apply for a title V permit. The commenter asked that the rule clarify how air curtain incinerators are to be addressed.

Response: EPA acknowledges that a typographical error exists in 40 CFR 60.3062(b) of the proposed OSWI rules. Although not mentioned in the comment, we notice that the same typographical error exists in 40 CFR 60.2970(b). As discussed in detail in other comments, air curtain incinerators are required to apply for a title V permit. The final rule text will be clarified so that 40 CFR 60.3062(b) reads as follows: "Air curtain incinerators that burn only the materials listed in paragraphs (b)(1) through (4) of this section are required to meet only the requirements in §§60.3062 through 60.3069 and are exempt from all other requirements of this subpart." Likewise, the final rule text for 40 CFR 60.2970(b) will read as follows: ""Air curtain incinerators that burn only the materials listed in paragraphs (b)(1) through (4) of this section are required to meet only the requirements in §§60.2970 through 60.2974 and are exempt from all other requirements of this subpart." For consistency and clarity within the rules, the final rule language in 40 CFR 60.2888(b) and 40 CFR 60.2994(b) will also be revised to match the language of 40 CFR 60.2970(b) and 40 CFR 60.3062(b), respectively.

Comment: One commenter (OAR-2003-0156-0060) recommended that the text of 40 CFR 60.2966 and the corresponding portion of the emission guideline be re-written as follows for clarity:

> *Am I required to apply for and obtain a title V operating permit for my unit?*
>
> "Yes. Unless your unit is one of the types of excluded units listed in 40 CFR 60.2887. If not, you are required to apply for and obtain a title V operating permit."

Response: The language found in the proposed rules clearly states the title V requirements for units subject to these subparts. Therefore, EPA disagrees with the commenter and will retain the language found in 40 CFR 60.2966 of the proposed NSPS and 40 CFR 60.3059 of the emission guidelines.

Chapter 7
Testing And Monitoring

Comment: One commenter (OAR-2003-0156-0060) stated that they do not know for certain that an air curtain incinerator can meet the proposed emission limits. The commenter suggested that, if EPA is certain that these units cannot meet the limits, then the rule should state something to the effect of, "...except as may be otherwise provided in the exemption provisions of this rule, air curtain incinerators that have a burning capacity of 35 tons per day or less shall not be used to burn municipal solid waste; and, air curtain incinerators shall not be used to burn any amount of institutional solid waste." Otherwise, the commenter asked that EPA provide a way for air curtain incinerators to determine, by direct measurement, if they can meet the proposed emission limits presented in Table 1. The commenter noted that the difficulty is not in the measurement, but in the sample collection, since air curtain incinerators do not have a stack for sampling probes from which to collect samples. The commenter presented various alternatives for sampling and related their own experiences in testing these units, but noted that currently there is not a single, agreed upon, approach. The commenter concluded that performance testing for these units is extreme and unnecessary, and suggested that each State be allowed to set its criteria for manufacturers testing.

Response: The commenter suggests that EPA ban the use of air curtain incinerators that are used to burn municipal solid waste or institutional waste if we are certain that these units cannot meet the emission limits. While we anticipate that the bulk, if not all, of the air curtain incinerators that are OSWI units are burning only wood waste, clean lumber, or yard waste and would be subject only to opacity testing requirements, there may be some units that are burning other materials and would not qualify for the reduced testing requirements. We do not know whether such units are capable of meeting the emission limits, and, therefore, do not want to preclude their use in case an owner/operator of an OSWI air curtain incinerator can meet the emission limits. The general provisions (See 40 CFR 60.8(e)) require that the source owner provide performance testing facilities including constructing a system for which volumetric flow and pollutant emissions rates can be measured and that there is safe access to the sampling location. We agree that the exhaust configuration of air curtain incinerators does not meet 40

CFR part 60, Appendix A, Method 1 minimum criteria for determining a suitable sampling location and that access to the exhaust location is limited and hazardous. Not meeting EPA testing location requirements does not obviate the need for the source owner to demonstrate compliance with the applicable emission limits including conducting testing. However, in this case, there are mechanisms (e.g., 40 CFR 60.8(b)(3)) for the source owner to submit alternative test methods that are adequate to demonstrate compliance to the Administrator for review and approval. The source owner should prepare and submit an alternative testing plan, with justification for any deviations from the prescribed test methods, to the Administrator for review and approval prior to conducting performance testing.

Regarding the commenter's last statement, annual testing ensures, on a continuing basis, compliance with the rules. An air curtain incinerator burning institutional waste or less than 35 tons of municipal solid waste per day is considered to be an OSWI unit and, as such, must meet the emission limits and ensure compliance with the OSWI rules. An initial manufacturer's test does not adequately address ongoing compliance under actual operating conditions. Additionally, our intent is not to regulate the manufacturers of air curtain incinerators, but the owner/operators of OSWI units. As we discuss later in this section, we feel the responsibility for compliance testing and maintaining records thereof lies with the owner/operator of the unit.

Comment: One commenter (OAR-2003-0156-0065) noted that approvals for operation of an air curtain incinerator in the State of Indiana are limited to burning untreated wood waste and do not allow permanent location on any site. The commenter noted that these units normally operate for a few weeks at any one project site. For these units, the commenter noted that the proposed rules require an initial test for opacity within 180 days after the final compliance date and annual tests to be conducted no more than 12 months following the date of the previous test. For stationary units or units frequently in operation, this may be acceptable, but for units that may go months or years between uses it is not clear when the opacity test would be required. The commenter noted that it would be difficult for most units to meet the annual testing requirement in a timely fashion. As an addendum, the commenter also asked who would be responsible for conducting the test because most of these units are rented.

Response: We acknowledge the commenter's concern regarding annual testing requirements for air curtain incinerators that may not be used for months or years. To address this, we are amending the testing requirements for air curtain incinerators that burn only wood

waste, clean lumber and yard waste to require opacity testing upon startup if the unit has been unused and out of operation for more than 12 months following the last opacity test.

Regarding the commenter's question on testing responsibility if the unit is rented, we would generally expect the owner (lessor) of the unit to perform testing and maintain records of compliance testing for the unit being rented. In this situation, the operator (lessee) is responsible for obtaining all necessary documentation (e.g., performance test data) demonstrating that the unit is in compliance from the owner (lessor) and maintaining the documentation on site with the air curtain incinerator. The operator (lessee) in all situations is responsible for correctly operating the unit, burning only allowable materials, being aware of all compliance requirements (i.e., testing, monitoring, recordkeeping and reporting), and making sure the unit is in compliance while operating the unit. However, given the various arrangements that may exist between owners and operators, different lengths of time a unit may be operated at a particular site, etc., EPA and State regulatory and enforcement agencies have discretion to determine which of the parties is responsible for compliance activities or noncompliance issues on a case-by-case basis.

Comment: One commenter (OAR-2003-0156-0054) requested that CEMS be considered for monitoring the emissions of all regulated pollutants and not only CO.

Response: As we note in the preamble to the proposed rules, the first and foremost option considered by EPA is to require the use of CEMS to demonstrate continuous compliance with specific emission limits. EPA considers other options when CEMS are not available or when the impacts of including such requirements are considered unnecessary. While CEMS may be available for some of the regulated pollutants, they would add likely add significant expense and are not necessary to ensure continuous good operation of the OSWI unit and the control device. For example, OSWI units that comply with the emission limits rather than close, are expected to use good combustion practices and wet scrubbers to meet the emission limits for metals, PM, dioxin/furan, and acid gases (SO_2 and HCl). The final OSWI rules requires initial and periodic emissions testing for all of these pollutants. During the test, while the unit is achieving the emissions limits, the owner/operator must measure scrubber operating parameters. The rule then requires continuous monitoring of the scrubber operating parameters. The parameters must be maintained at the same or better levels than measured during the emissions test. This ensures that the scrubber continues to be operated throughout the year in the same way it was during the emissions test while all emissions limits were being met. This combination of testing and

monitoring is sufficient to provide reasonable assurance that the emissions limits will be met on a continuous basis. While CEMS may be available for some pollutants, such as SO_2 and PM, they would be more expensive to purchase and operate than scrubber operating parameter monitors, which are of simpler design and are typically supplied with the scrubber when it is purchased. Given the small size of OSWI units, the large expense they will incur just for the control device, and the fact that emissions testing and operating parameter monitoring provide good assurance of continuous compliance, we find that use of CEMS is not necessary in this case. As another example, NO_x CEMS are available and are required by some combustion standards that require the use of NO_x control devices (e.g. selective catalytic reduction (SCR) or selective non-catalytic reduction (SNCR)). However, these NO_x control technologies are ill suited for such small units as the typical OSWI unit and are not required by the final OSWI rules. Therefore, requiring CEMS for NO_x would serve no purpose.

Unlike the other pollutants, the OSWI rules require CEMS for CO. Carbon monoxide concentration in the flue gas is a good indicator of whether combustion is being carried out thoroughly and efficiently. Thorough and efficient combustion reduces emissions of CO and other pollutants including dioxins/furans. Since the wet scrubber is not an effective control device for CO, and the CO emission limit can only be achieved through good combustion practices, we are requiring the use of CO CEMS. The CO CEMS not only demonstrate that the CO limit is met, but also ensure good combustion and continuous proper operation of the combustion unit.

Thus, the final OSWI rules require both CO CEMS and the monitoring of control device operating parameters to ensure proper operation of both the combustion unit and the air pollution control device. Parametric monitoring, together with CO CEMS data and stack testing, is sufficient for OSWI units to ensure proper operation of the unit and its control devices, and ongoing compliance with the emission limits.

Comment: One commenter (OAR-2003-0156-0071) expressed concerns with the applicability of title V performance testing requirements to small sources. The commenter recommended performance testing once every two years for opacity, HCl, and PM. If three consecutive tests are passed, performance testing shall be conducted once every five years. The commenter believes no other contaminants require testing after the initial compliance test. The commenter believes that the economic burden of testing as frequently as proposed in the rules is too great and more than is warranted for such small sources of air contaminants. The commenter

also stated that the expressed goal of ensuring that the control device is working properly is already addressed in the rule by the use of parametric monitoring. Also, the commenter pointed out that PM is often used as a surrogate for metals emissions, testing for HCl would cover acid gases including SO_2, and CO is required to be monitored by a CEMS, making further testing unwarranted. The commenter further pointed out that a wet scrubber does not directly control dioxin/furans, nor does it control NO_x at all. Therefore, testing for these pollutants would not indicate the proper operation of the control device.

Response: As we have discussed in earlier responses, annual testing ensures, on an ongoing basis, that the air pollution control device is operating properly and its performance has not deteriorated. After the initial compliance test, the commenter suggests testing for a select group of pollutants every two years initially, and then once every 5 years upon demonstrated good performance. We disagree that additional reductions in testing requirements are warranted, as we already provide for reduced testing. As proposed, the rules allow the owner or operator to skip two annual tests for a pollutant if all three previous annual stack tests show compliance with the emission limit for that pollutant. Potentially, this would allow an owner or operator to perform only one stack test every three years, for all pollutants, if continued good performance is demonstrated. As we note in the preamble to the proposed rules, we consider testing every 3 years sufficient to provide certainty about control device performance while reducing the overall costs of testing to the regulated source. The commenter's suggested approach to testing would not provide the same level of certainty, and we have already provided a means for a source to reduce their testing costs.

Chapter 8
Other Compliance Issues (Dates; Startup, Shutdown, And Malfunction; Reporting And Recordkeeping)

Comment: One commenter (OAR-2003-0156-0065) expressed a concern that units planning to close within the 3 years allowed by the proposed emission guidelines would potentially have to apply for title V operating permits. The commenter asked EPA to clarify in the final rules that sources either need to close by the time their title V permit application is due or that a title V permit application is not required for sources closing by the final compliance date. The commenter also asked EPA to add notification requirements for sources closing so that the regulatory agency can track compliance with sources choosing to shut down their incinerators.

Response: The timing of title V permit application deadlines is established by law (see sections 129(e), 503(c), 503(d), and 502(a) of the CAA). As such, EPA has no authority to exempt from this requirement sources planning to close. Sources planning to close after the permit application deadline may continue operations until the closure deadline as long as the permit application deadline is met. Sources cannot legally operate after the initial title V permit application deadline without having submitted a complete title V application by this deadline (see CAA section 503(c) and 40 CFR 70.5(a)(1)(i), 71.5(a)(1)(i), 70.7(b), and 71.7(b)). Sources planning to close can explain the procedures and timing associated with their closures in their title V permit applications. Such an explanation will provide the permitting authority with much needed information and will allow the permitting authority to take an anticipated closure into account as it drafts the source's title V permit.

Concerning the commenter's second request, we have not chosen to require sources planning to close to provide periodic notifications for the purpose of tracking compliance. In the Federal plan to implement the emission guidelines for CISWI, we included notifications such as those suggested here. However, the situations differ, as do our approaches in the two different situations. For CISWI units there were two possible scenarios. The first was such as is the case for OSWI units that plan to close before the initial compliance date. In that instance, where sources were planning to close rather than comply with the Federal plan, we included no required notifications. We saw nothing to track since the only milestone was the closure itself, which

could be readily ascertained. Where we did include notifications was for the case under the CISWI Federal plan wherein sources planning closure could qualify for extensions to the initial compliance date by meeting increments of progress. A need for tracking compliance with the required increments of progress justified our requirement for notifications of status. For OSWI, the only requirement is to close or comply by a particular date as no extensions to the initial compliance date are being provided. As such, we see no similarity with the CISWI example and have not included the notifications associated with increments of progress.

Comment: One commenter (OAR-2003-0156-0070) objected to the proposed exception for periods of startup, shutdown and malfunction (SSM). As cited by the commenter, an emission standard, "limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis, including any requirement relating to the operation or maintenance of a source to assure continuous emission reduction, and any design equipment, work practice, operational standard... ." The commenter noted that some exceptions for periods of unavoidable compliance have been allowed by the court for other provisions of the CAA (e.g. section 111), but that these provisions are based on a particular control technology that is not expected to function properly all of the time. The commenter contended that this rationale does not apply to CAA section 129 standards, since these are not based on a particular technology but, rather, the "maximum degree of reduction."

Response: We disagree with the commenter that compliance with emission limits must be maintained during periods of SSM. However, we assert that owners/operators have a general duty to minimize emissions during periods of SSM. As required in 40 CFR 60.11(d) of subpart A (the part 60 general provisions), we expect owners and operators "At all times, including periods of startup, shutdown, and malfunction,... to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions." This requirement applies during SSM episodes. However, we make clear in 40 CFR 60.8(c) of subpart A that, "Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions... nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless specified in the applicable standard." The OSWI limits are achievable using good combustion practices and wet scrubbers. During SSM episodes, such as an unavoidable malfunction of the

OSWI unit or wet scrubber, the limits would not be achievable. Therefore, it makes sense for the OSWI subparts to be consistent with 40 CFR 60.8(c). In the final OSWI rules, we have clarified our intent that the emission limits do not apply during periods of SSM. Furthermore, by clearly defining startup, shutdown and malfunction in the definitions of the final OSWI rules, we are also preventing any ambiguity and minimizing the potential for abuse of these provisions by affected sources. For example, startup is confined to the period between activation of the OSWI unit and the first charge of waste to the unit. Malfunction excludes failures caused, in part, by poor maintenance or careless operation.

Comment: One commenter (OAR-2003-0156-0070) argued that, even if EPA could lawfully create a SSM exception for CAA section 129 standards, it must be limited to unavoidable noncompliance only during periods of startup, shutdown or malfunction. The commenter contended that, as proposed, the SSM provisions provide a compliance loophole for OSWI operators where any malfunctioning equipment could be claimed to be a period of malfunction for the OSWI unit, although the malfunctioning equipment does not impact emission levels or capability to control emissions. The commenter recommended that EPA make it plain that, "to trigger the malfunction exclusion, a malfunction must not be "reasonably preventable" and must cause the exceedance of emission standards."

Response: As discussed in the previous response, we have provided definitions that clearly define what we consider to be periods of SSM and what our expectations are of the affected source during these periods. The definition of "malfunction" in the OSWI rules already includes the "not reasonably preventable" clause. Furthermore, we require (in 40 CFR 60.2958 and 40 CFR 60.3053) OSWI units to report all deviations from the emission limits and to specify whether these deviations occurred during a SSM period and the durations and causes of the excess emissions. The enforcement agency has the discretion to determine if events claimed to be SSM really meet the definitions of SSM or whether deviations are violations of the rules.

Comment: One commenter (OAR-2003-0156-0077) expressed concern that due to increased Missouri statutory requirements for rulemaking, meeting the one year adoption and the EPA submission time frame for the State plan implementing the emission guidelines is improbable. The commenter recommended that EPA re-evaluate the time frame and give consideration to States that are working towards a State plan.

Response: We disagree that the time frame for implementing the State plan is improbable, as this deadline has been met for several previous CAA section 129 emission guidelines. Furthermore, the timing for development of State plans is established in CAA section 129(b)(2) and, therefore, EPA is not able to change the one-year State plan submittal deadlines in the OSWI rules. We provide a model rule in the emission guidelines that should facilitate easy adoption and implementation of the emission guidelines. Furthermore, as pointed out in the Federal Plan for Large MWC (See 63 FR 63192 and 63198, November 12, 1998), the adoption of a Federal plan does not preclude a State from submitting a State plan later. We expect the Federal plan to be an interim action, and encourage States to continue working on State plans that may still be under development when the Federal plan is published. After an OSWI unit in a particular State becomes subject to the Federal plan, the State may still adopt and submit to EPA for approval a State plan which contains all the required elements of a State plan. EPA will determine if the State plan is as protective as the emission guidelines. If EPA approves the State plan, then the State will implement and enforce the State plan in lieu of the Federal plan. EPA will periodically amend the Federal plan exclusion table to identify States that have approved State plans. Furthermore, the State plan is effective on the date specified in the notice published in the *Federal Register* announcing EPA's approval, whether or not the exclusion table has been revised.

Chapter 9
Impacts

Comment: One commenter (OAR-2003-0156-0069) contended that EPA's use of national average costs and "typical" units in determining impacts may have overlooked the impact that the rule would have on small local governments, school districts and small nonprofit organizations. The commenter expressed concern that EPA's certification that the proposed rule will not have a significant economic impact on a substantial number of small entities is not based on an adequate analysis of institutional waste incineration units operated by small entities. The commenter urged EPA to provide an adequate factual basis for its certification statement or withdraw its certification and assume the rule will have a significant economic impact on a substantial number of small entities. As a remedy, the commenter suggested that additional analysis in a supplemental proposal could alleviate this problem without slowing down the rulemaking process. Also, if EPA decides to withdraw its certification in a supplemental proposal, the commenter offered to help identify small entity representatives who can advise the small business review panels required under the Small Business Regulatory Enforcement Fairness Act of 1996.

Response: The final OSWI rules provide exclusions for some sources that may find it unreasonably costly to comply with the rules or utilize alternative disposal options. These exclusions include such sources as rural IWI units and incinerators in isolated areas of Alaska. These, and the other exclusions, should provide relief for many small entities for which a reasonable disposal alternative is unavailable. For example, a small, rural school may apply for the rural IWI exclusion if they are located more than 50 miles from the boundary of the nearest MSA and can demonstrate that suitable waste disposal alternatives do not exist or are economically infeasible considering their budget. A small school located in an urban area will most likely find that alternative disposal options are readily available, and that they would incur no additional cost or perhaps a slight savings by shutting down their waste combustion unit. The exclusions provided should adequately cover those certain situations where feasible alternatives to incineration do not exist.

As for areas where alternatives to incineration do exist, we have found that the typical cost

of incineration is the same as, or greater than, that of using a landfill or sending waste to a larger MWC (see tables 5 and 7 of OSWI Unit Control Options and Costs memorandum, Docket item OAR-2003-0156-0012). An additional, more detailed analysis of over 150 OSWI units was conducted to verify that this is the case. The analysis used parameters appropriate for each OSWI unit, including incinerator throughput, distance to nearby landfills, and landfill tipping fees. The analysis confirmed our initial belief that in the vast majority of cases an OSWI facility would incur no additional cost when switching to a landfill. This was also true for small entities. Information about this analysis is in the docket (see Impacts of Other Solid Waste Incinerator Rule on Affected Small Entities, November 2005).

There are several likely reasons that existing OSWI units have continued to operate rather than close and use a less expensive waste disposal method. Some sources may simply be unaware of other viable waste disposal options and their costs. The attention of other sources may be focused on their day-to-day operations, of which the incineration of waste represents a small piece, both with respect to overall operations and budget. Until an unanticipated event, such as a significant maintenance or repair expense or, in this instance, new regulatory requirements, causes a source to focus on the question of whether to continue to incinerate versus turn to another waste disposal method, the source may not have a reason to consider whether they are using the most economical waste disposal method. Moreover, some sources may not have considered other waste disposal options in lieu of incineration due to concerns regarding the nature of their waste stream (e.g., confidentiality or liability concerns).

As we point out in the preamble to the proposed rules, the OSWI population has been steadily declining over the past several years, and this trend would likely continue in the absence of an OSWI regulation. To ensure that the affected sources were aware of the proposed rules, EPA sent fact sheets to 361 of the existing OSWI units in our inventory (we were unable to determine the mailing address for the remaining 11 units in our inventory). The fact sheets explained the proposed regulations, the anticipated costs and impacts to their facilities, and how they could submit comments. None of these facilities submitted comments on the proposed rules and, in fact, about one-third of these facilities informed us that they no longer own or operate an incineration unit. In addition to the letters to the existing sources, we also identified 125 trade organizations and interest groups that represented potential OSWI owners/operators, such as school system administrators, private school headmasters, correctional facility administrators,

religious organizations, associations of city and county governments, etc. and sent them copies of the fact sheet. None of these interest groups submitted comments on the proposed OSWI rules or on the cost or other impacts EPA anticipated due to the rules. We believe that this closure trend in absence of regulation exhibited by existing OSWI units, paired with the lack of comment on our impacts analysis by the soon-to-be regulated community, supports our analysis that it is often more economical to shut down OSWI units and use an alternative waste disposal method, and, therefore, that the final rules do not pose a significant impact to a substantial number of small entities.

However, to further address the commenter's concern, small entity outreach surveys were sent to eight entities associated with schools (e.g., State-affiliated department of education, office of school facilities). The surveys requested information regarding the use of solid waste incinerators at schools the entities represent or are associated with. All responses, with one exception, indicate that incinerators are not being used by the respondents. The one exception regards an institution that owns/operates pathological waste incinerators, which are excluded from regulation under the subparts.

Comment: One commenter (OAR-2003-0156-0077) requested an explanation for how EPA calculated the estimation that 85,000 tons per year of waste are expected to be landfilled nationwide.

Response: We anticipate that rather than complying with the requirements associated with the final OSWI rules most, if not all, of the existing OSWI units will shut down and the waste will be disposed of in alternate ways. The solid waste currently burned in the OSWI units will most likely be diverted to a landfill. When we developed the model OSWI units, we were able to estimate the annual usage, and therefore, an annual waste flow rate in tons of waste per year for each model unit. By multiplying the annual waste flow rate of the model unit by the number of OSWI units we expect to resemble each model unit, we were able to calculate an annual national waste flow rate of 85,000 tons per year. The docket contains memoranda that discuss the development of model units and the estimate of national impacts, including solid waste, of the proposed and final OSWI rules.

Chapter 10
Miscellaneous

Comment: One commenter (OAR-2003-0156-0062) disagreed with statements made in the preamble to the proposal, in which EPA indicates a belief that the only reason sources choose to incinerate is to save money, and any source not experiencing an economic benefit from incineration would close. The commenter pointed out that EPA expects a generator of waste to take responsibility for that waste. As a result, liability considerations, confidentiality concerns, and corporate policy all may drive a source to utilize incineration. The commenter requested that EPA adjust its simplistic, stereotypical view of incinerator operators and refrain from using "anticipated closure" as a justification for the proposed OSWI rule.

Response: We point out that the sources affected by the final OSWI rules are those that are incinerating municipal or institutional waste (e.g., small municipalities, schools, correctional facilities). As a practical matter, these types of facilities are most likely interested in disposing of their waste as economically as possible. As we point out in the preamble to the proposed rules, our objective is not to encourage the use of alternatives or to discourage continued use of VSMWC or IWI units; our objective is to adopt emission guidelines for existing OSWI units that fulfill the requirements of CAA section 129. However, our experience leads us to anticipate that many affected sources may find it to be more cost effective to discontinue use of their incinerator and use an alternative means of waste disposal. The concerns presented by the commenter, however, such as liability considerations, confidentiality concerns, and corporate policy, appear to be issues that would be of more concern to a commercial or industrial organization trying to dispose of commercial or industrial waste. As made clear in the proposed and final OSWI preamble and rules, commercial and solid waste incinerators are regulated under the final CISWI rules (see 40 CFR 60 subparts CCCC and DDDD) and are not subject to regulation under the final OSWI rules.

Comment: One commenter (OAR-2003-0156-0077) reviewed the OSWI Inventory database and found that the only incinerator listed in the State of Missouri is a crematory, and therefore not subject to the proposed rule. The commenter further indicated that six facilities in

Missouri operate or have a permit to operate an incinerator that may be subject to the proposed rule.

Response: EPA acknowledges the comment, and thanks the State for the information. The State will have the opportunity to list their inventory of OSWI units upon development of their State plan.